MICHIGAN FARMER.

Devoted to Agriculture, Horticulture and Science.

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THE MICHIGAN FARMER,
A MONTHLY HOME JOURNAL
Devoted to Agriculture, Horticulture, Stock-Raising Mechanics, and all things pertaining to the Farming Interests of Michigan, and Agriculture in general. $1 per year.

WILLIAM S. BOND, GEORGE SNYDER,
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CONTENTS OF THIS NUMBER.

WOOL TALK AND PROSPECTS.

Buyers are offering in Detroit to-day (July 22,)

For Fine Grade Merino, full blood	55 *a* 62c.
" " " " mixed do.	50 *a* 55c.
" Canada long coarse clean fleece	48 *a* 50c.

Circumstances have for a while have seemingly turned the wool market in favor of the buyer, and he is chuckling with delight at the prospect of a grand defeat of the grower. But "there is many a slip twixt cup and lip." According to our ideas the manufacturer and speculator have been gloriously defeated in his first tilt with the grower, having been completely unhorsed. They had their army early in the field, and the papers in their interest during the month of May begun as usual, to forestall the market by stating what such a great dealer said, and another experienced man had predicted, prophesies were inexhaustible,—for what, why simply to deceive the farmer and make him think that he had better hurry the new clip into market and sell it for 40 or 45 cents; leaving a margin to run up on from 3 to 5 cents. They had done this for years and "pulled wool over the growers eyes" to their hearts content, and were chuckling to think how well the thing worked. But lo! how were their "great expectations" realized. The farmer had slept long enough and he awoke, opened his eyes, and began to look around, and finally resolved that he would hold on to his wool until he got *a fair price for it.* What was the consequence? why the numerous agents from the East sat fretting in western h tels pretending for a while they could get along sometime without wool; but "murder will out," —they could'nt stand it long and finally instead of 40 *a* 45c. they offered 55 and 60 cents, and in many instances 65 *a* 70. This was a *victory for the grower of 25 cents on a dollar* in 20 days for "holding on." Now the press generally wind their horns to the effect that "wool is declining." No doubt it is somewhat; but the farmer has had the best end of the yoke so far, and those who can afford to may keep it. For remember, that if wool *had started* at what the speculators had intended it should—at 40 *a* 45—what would have become of it during the decline, why instead of

getting 50 *a* 60. as it ranges *now*, they would be getting 35 *a* 40c. per pound. So the grower now meets the buyer, even with the decline, at 10 *a* 15 cents higher on the pound than the price that the buyer *first intended should be paid*, therefore, so far the farmer has won largely in the game, and the buyer feels it by the loss of $25,000 out of every $100,000 worth of wool purchased.

Wool is sorely needed, notwithstanding the talk about "large lots of cotton being relieved by recent great victories and coming forward."—Will the government clothe the new levy of 300,000 conscripts with cotton? Will the army now in the field demand cotton for winter uses, or wool? It is said that California instead of producing 9,000,000lbs will clip but about 5,000,000, what State is to make the missing 4,000,000? Michigan will have to do her share towards it, and her husbandry will reap the benefits by getting a *fair price*—altho' some are far beyond the mark in their ideas of what is fair—as in this case like many others persons are too often extravagant in their demands. We think that wool will always pay a larger interest by laying in farmers hands until March 1864, than money invested in any other way. We do not fully agree with many of the ideas of our daily cotemporaries in Detroit, nor even our respected senior in all things about wool permanently declining.—W. S. B.

The U. S. Economist of the 18th inst, says:—The heavy decline in gold and exchange and the continued favorable war news have quite unsettled and depressed our Wool market, while the "conscription riots" have kept it very quiet. We have seldom, if ever, found so few buyers or inquirers in the market as during the week under consideration. The few buyers that appeared in town early in the week were in haste to leave, and business in the staple has been brought to a complete stand by the troubles of the hour. The operations have been very limited and not worth reporting, including some Fleece at 70 *a* 75c.; but these prices are now considered above the market. In the country the market is also at a stand, the favorable war news and heavy decline in gold having stopped all operations. Buyers refuse to give late prices within 5 *a* 7½c. per lb, indeed some of the Western papers quote a decline of 10 cents. Wool-growers not yet generally willing to accede to these rates.

It will be remembered that last year was the heaviest year of wool imports we ever had; and yet, notwithstanding all this, we have this year an increase of 80 per cent. in value, over the imports of our heaviest previous year. In other words, our imports this year so far are more than treble as much as they were in the corresponding time of any year previous to 1862. It cannot be denied that this immense increase in the imports of Foreign Wool, particularly now that gold is down to 126, and all the States of the Mississippi are restored to federal control—it cannot be denied, we repeat, that this must have a great influence upon the price of Domestic Wool. At this time last year all the new clip of domestic wool had been bought of the growers at 35 *a* 45c. the latter figures being the price at that date, and foreign wools were held at prices which made them dearer than domestic. But at the present date the facts are reversed. The new clip is nearly all held by the growers at 65 *a* 80c, and the stock of foreign is offered at rates which make it cheaper to manufacturers. And, as there are few woolen fabrics which cannot be manufactured from foreign stock, but little domestic will be taken while present prices remain. It therefore becomes imperatively necessary that domestic wools must decline.

Wool has still further declined, 55cts. being the outside figure paid. Buyers and sellers are perfectly agreed; the latter to keep the clip for the present, and the former not to interfere with the arrangement. Very little finds its way to market—and a large portion of that little finds its way back to the store-house of the farmer.—*Ann Arbor Journal.*

The wool market is at present very unsettled and prices fluctuating. As soon as the time drew near for the clip to come into market the prices went down to about 50cts, but as if by natural agreement the farmers refused to sell, and consequently it came up again. The highest price that has been paid is 72cts. but the recent victories has had the effect to bring it down again.—*Ingham Co. News.*

Wool.—The Ann Arbor Argus, says: the prospects of our Wool growers realizing higher prices have not improved any since our last. In fact prices have materially and disagreeably fallen off in consequence of the successes of our armies in all directions. Our buyers are offering from 55 to 60c, and but very little is coming forward.

Wool.—The Monroe Commercial, says: the receipts of wool are quite light, only an occasional small load offering. The extreme price is 60 *a* 63c. Farmers are still holding back for better offers.

Wool is on the decline, says the Romeo Argus.—Prices ranges from 50 to 65 cents.

The Hudson Herald says: about one half of the wool crop, it is estimated, has already come to market. Last week prices in some cases went up to 75 cts., since then from 65 to 68 cts., seems to be the ruling figures.

Wool.—Barry Pioneer says: In this section little or nothing is doing in the wool market.—The farmers expect to get 75 cents a pound for

their wool, and buyers are talking 50 to 60 cents. There is undoubtedly a large amount of imported wool in the market; but, on the other hand the consumption of wool by the manufacturers was never so great as at present.

Wool.—The Albion Mirror says: but little of this article has yet arrived in our market. The price has receded, buyers now offering 55 to 58 cents per lb.

Wool.—The Clinton Republican, says: The late war news has brought wool down to about 55 cents. We cannot see a possibility of its coming much lower, under any circumstances.

The Wool Convention.—The Jonesville Independence says:

The Wool Growers Convention was a large and respectable one, the Hall being crowded, with farmers, and though many were unable to obtain seats and left before the proceedings were terminated, there were attached to the resolutions the names of growers representing over 11,000 fleeces, or 60,000 pounds of wool. Beside each town of this County being represented, there were delegates from four other counties. It is said the farmers generally in this section of the State have expressed their intention of abiding by the action of the Convention.

It will be seen that they decided that wool *should* bring not less than 75 cents per pound, and voted to hold the present clip until that price could be obtained—"*unless things materially change from the present condition of things.*" Whether things change, we suppose, is to be determined by the Association in convention assembled, the individual members thereof not being left to decide the point each for himself.

The Convention adjourned to Saturday, the 27th inst., to meet at the same place.

The Wool Convention met on Saturday, 27th ult., resolved to adhere to their former resolve that their wool must bring 75 cents, and adjourned for three weeks.

Wool.—The Maine Farmer, says: The wool market hereabouts is decidedly quiet. There seems to be no fixed value for the article, and while buyers are offering from 50 to 60 cts., farmers are holding back, with the expectation of obtaining from 90 cts. to $1. The prices of wool depend on so many contingencies connected with the war, that we are not prepared to advise farmers to either dispose of their clip or hold on.—We may say, however, that the temporary lull among buyers at this season of the year is not unusual, and the prospect is that it will command a medium figure, say about 75 cts. per pound.

Do not prop a barn-door open with a pitchfork as a gust of wind may break both door and fork.

CROPS IN MICHIGAN.

In this portion of Michigan, the continued dry weather had almost discouraged farmers. In the neighborhood of Detroit, the crop of hay is exceedingly light. All kinds of fruit has suffered. Potatoes are very backward, and corn has made but little growth for three weeks. Wheat is light and flinty. Every one has been wishing for rain, and while we write it is pouring down most generously. This may suscitate the already parched crops, and thoroughly soak the dry and hardened soil, if it continues for twenty or thirty hours, which it has every appearance of doing, and thus gladden the farmer's heart. From the following items, it will be seen that the wheat crop bids fair to be rather light throughout Michigan:

The Wheat.—It is a common remark among farmers that the wheat in this vicinity never looked better at this time of year than it does the present season.—*Albion Herald.*

Fruit Prospects.—So far as we have been able to learn, the prospects for a good supply of fruit the coming year are tolerably good, though we cannot hope for so bountiful a harvest as we realized last year.—*Ann Arbor News.*

☞ Harvest has already commenced, and considerable wheat will be cut this week. The crop, though not quite as bountiful as for some years past, is of superior quality, and is better, on the whole, than was expected.—*Peninsular Cour.*

☞ The wheat crop will not probably be more than half an average in St. Joseph and Kalamazoo counties, owing to the ravages of the fly and midge. Several farmers have plowed up their wheat fields, as not worth cutting. The dry weather, followed by a severe hail-storm, did considerable mischief near Three Rivers.

☞ The weather continues pleasant—just cool enough to make out-door labor agreeable—and, upon the whole, we could not have had better weather for the securing of wheat and hay than it has been thus far. Spring crops never looked better, and if sufficient help can be obtained to secure them, our county will undoubtedly be supplied with plentiful crops.—*Albion Mirror.*

The Wheat Crop.—The harvest in this county has already commenced, and from what we can learn, it is evident that the crop will not be more than half the usual average. Early wheat was badly damaged by the Hessian fly, and later fields are being nearly ruined by weevil and rust. There is occasionally a field of wheat that will give an unusually large yield, having escaped both insect and rust, but where there is one such, there are many more or less damaged, and some entirely ruined.—*Hastings Banner.*

WHEAT.—We are compelled to chronicle the sad fact that the wheat crop in many localities in this and Gratiot counties will be very light, on account of the serious ravages of the weevil. We have examined many fields, which one month since promised a yield of from twenty-five to forty bushels per acre, which will not yield over from five to ten bushels. Harvesting is now commencing, and farmers who have large fields destroyed by the weevil are wearing long faces.—*St. John's Democrat.*

☞ Our farmers are now actively engaged in the harvest field, and with continued good weather for a fortnight, the wheat crop will be secured in good condition. Laborers are scarce and wages high, but the cool weather is favorable to the harvesters. The crop, as far as we can hear, will be an average one, the heads being well filled, and the berry excellent. In early sowed, however, the ravages of the insect have been severe.—*Ann Arbor Argus.*

THE GROWING WHEAT.—There are conflicting opinions among our farmers as to the wheat prospects, some holding the opinion that the fields present an encouraging aspect; others, that the insect in the fall, followed by such alternations in the weather as have prevailed in this State during the winter and spring thus far, have very much blighted the prospect of a good crop of wheat this year. Our own opinion is that the crop will fall far short of that last year.—*Ann Arbor News.*

DROUGHT, RAIN, FRUIT, &c.—We have not had so much of a drought in the month of May for some years past, as we have during the present season. It has destroyed nearly all the pears, and a large portion of the apples and cherries. The warm, dry weather also put wheat and grass forward with unusual rapidity, and another week of dry weather would have injured both very much, but the fine rain we have had has saved them, and our gardens and our small fruits also. The fall of rain was uncommonly large, being over two inches.—*Ann Arbor Journal.*

THE WEATHER AND THE CROPS.—The uniformly dry weather we have had during the spring and summer, thus far, has been very injurious to many kinds of crops, which suffer materially in consequence. Grass is exceedingly poor—will not be over half a crop. Oats and potatoes are also suffering much for rain, and will yield poorly. Corn is very backward, especially upon clay ground, but it may come forward yet, and prove a fair crop. Wheat is doing finely, but is somewhat spotted in most of the fields. The insect done some damage in the fall, and many pieces were somewhat winter killed, but the crop is filling remarkably well, and from what we hear, we judge that with good weather for harvesting, there will be about an average crop, and of superior quality.—*Monroe Monitor.*

SCIENCE AND AGRICULTURE.

ON THE LINKS CONNECTING THE VEGETABLE AND ANIMAL KINGDOMS.

BY HENRY GOADBY, M. D., F. L. S.

The following was written by the able and scientific man whose name appears as its author, while a resident of Detroit, a short period before his death. It is worthy of the attention of every person who feels interested in subject on which it treats, as it abounds with thorough and useful information:

A tomb was exposed by Belzoni, who brought to England, and placed in the British Museum, the sadly crumbling Sarcophagus, containing the equally crumbling remains of a Monarch, who had given laws to the whole civilized world, *upwards of five thousand years ago!* Such is the date as recorded in the papyrus, and rendered by those skilled in decyphering Egyptian hieroglyphics.* The mind is lost in the contemplation of such a theme as this! We feel carried back to a period antecedent to the great flood, and while we linger beside this unprecendently venerable remain of humanity, as times and oft we have done, we seem to realize in such a presence all the early events of the world, and ponder over the sins and iniquities of a people so grave, as to provoke the wrath of God!

Our specimen of "fine linen," is as fresh, and as white as though it came from the loom but yesterday; examined by the microscope, it proves to be much finer than a linen pocket handkerchief, we usually carry.

But while the Sarcophagus is broken, and the body it contained despite the conservative process of embalming, is just crumbling to decay, the *woody fibre of the flax*, and the papyrus, are uninjured! Thus it would appear that Lignine is nearly, or quite indestructible.

To this layer of cloth, placed in contact with the body, succeeded a *coarser layer*, slightly impregnated with bitumen; in like manner, this wrapper was followed by a still coarser, and so it continued, until the external layer was almost as coarse as a sack. Meanwhile the quantity of bitumen contained in the cloth kept pace with its increase in coarseness, till in the outer layers, thorough saturation was effected.

It is a very remarkable fact that, whilst the Egyptians were well acquainted with flax, they do not appear to have known anything of *cotton fibre*, since it does not occur in any fabric of Egyptian manufacture. On the other hand, the ancient Peruvians knew all about cotton, and employed it extensively but were altogether unacquainted with flax, hence, Peruvian Mummy cloth, is found to be entirely cotton—while Egyptian Mummy cloth is entirely linen. The characters which distinguish these vegetable tissues, and by means of which each may be known from the other, are given in the accompanying figure

Fig. 57.

Flax, [letter A, fi. 57] is a solid cylinder, provided with a great number of joints, at short intervals like a bamboo cane. Cotton [B] is not *woody fibre* at all, but simply a long, delicate hair of the plant that bears it. In texture, this hair is thin, and transparent, originally filled, (or nearly so) with a fluid; in drying, this fluid becomes obliterated, and the wall of the long and slender cell, unable to maintain its integrity, collapses—falls to, and coalesces—in this state it prepares to dry like a thin ribbon.

But simultaneously with the drying, it begins *to twist*, and this continues interminably, from one end of the hair, to the other. So that, under the microscope, flax is known by its solidity, and many joints, and cotton by its flat, and twisted character,

The flatness of the cotton, however, is not perfect; the sides at their edges, refuse to succumb. Now, as a principle of me-

*There is in the Museum of the Vatican at Rome the mummy of a man, acknowledged to have been contemporary with Abraham.

chanics we know that, it is impossible to make a *hollow cylinder flat*; success may be attained for the greater part of the structure, but a small quantity of air will be compressed at the sides, which will resist any mechanical violence, and nothing short of splitting the tube in this direction can possibly ensure approximation; so the *edges* of the cotton fibre always present a thickened appearance.

The subject of woody fibre, and its development, is a very interesting one; a fruit of one species of Palm, the Nut Ivory, (Phytelephas macrocarpa) is peculiar, and seen in section of great beauty, by the microscope. When first gathered, and for a short time after, it appears like a mass of *condensed albumen*: so oft is it, at this period, that very thin sections of it may be easily cut with a pen-knife. After exposure to the atmosphere, and consequent inspissation, it becomes so *hard* that it is even difficult to cut it with a saw, and in this state it is readily turned in a lathe. When cut, the slice must be ground down until thin enough to transmit light freely, and then mounted as a preparation.

Examined by the microscope, we find the lignine in a *semi* or *pseudo* condition of development, exhibiting, at the same time, a true *vesicular* character. Figure 58 exhibits the micro-

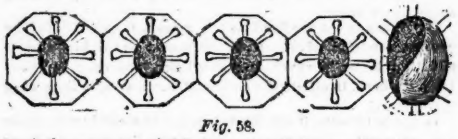


Fig. 58.

scopical appearance of this tissue, it will be seen that the central dark parts are surrounded by radii of a peculiar character, especially as regards their terminal portion, which is expanded. That these central dark parts are vesicular is made fully apparent in the last portion of the figure, which exhibits a greatly enlarged view of the central portion, *ground a little too thin*, whereby its vesicular character is displayed: the radii are tubular also.

The upper cuticle of the petal of Pelargonium (Variegated Geranium) offers a charming display of well-developed lignine in cells. (See fig. 59.) Here the cells are well formed, but irregular in size, whilst the black color of the radiating woody fibre, contrasts more beautifully with the rich crimson, forming the color of the petal. The external margins of the cells, too are slightly scalloped, which adds greatly to the general effect. Woody fibre meets us in other, and very curious situations; for example, in the midst of the pulpcells of certain fruits. In eating a pear, or a quince, our teeth come in contact with remarkably dense, but very minute particles of a *gritty* character, especially as we approach the centre of the fruit, or *core*.

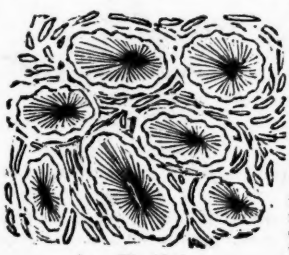


Fig. 59.

Hence this structure is called emphatically the *gritty tissue*. This structure is shown in fig. 60, where *a a* represents the pulp cells of the fruit, and the gritty tissue is represented by *b*.

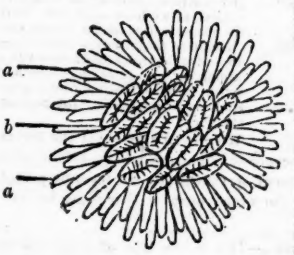


Fig. 60.

This tissue, (in the Pear and Quince) consists of isolated particles of lignine, of considerable density; and although grouped together in masses of greater or less dimensions, are yet distinct and separate. The nearer we approach the core, the larger and more frequently are the groupings of woody fibre; the more remote from it, the masses are much less in size, and sparsely scattered.

The intention of exhibiting this structure in such a situation, seems to be to give protection to the seeds; it appears like a foreshadowing of that superior conservation of these important germs, which attains its highest developement in the Cherry, Peach, Plum, &c.

If we make a thin section of the cherry, peach, or plum stone, and grind them sufficiently thin, we shall find such general uniformity, that although they possess specific differences, one illustration will suffice for them all

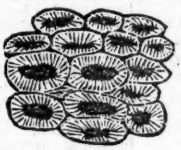


Fig. 61.

Thus fig. 61 gives the microscopic view of a section of cherry stone. In this, as in former illustrations, we see the well-defined cells, each containing what appears to be a *nucleus* surrounded by radiating lines This structure is ligneous—woody fibre, and presents much general resemblance to structures that have preceded it. The central portion is decidedly *vesicular*, as shown in many parts of the preparation from which the figure was obtained, in those portions which, being ground too thin, have laid open the cavity: in all probability, too, the radiating lines are *tubes*.

We would now pause, and see what analogy this, and kindred structures offers to command our attention In the description, and illustrations of human bone, we saw its structure composed of *vesicles*, and *small tubes*; do we not find a tissue strictly analagous in the sclerogen of plants?

So closely is this tissue of plants, allied to the kindred tissue in animals, that they appear to be separated only by two small points of difference, *i. e*, the vegetable tissue presents a series of well formed cells, which are absent in the bone, and in the plant, the radii are confined *within* the cells respectively, whereas the canliculy of bone *freely inosculate*.

The shells of the various nuts also present the like general characteristics, but their individuality is always maintained by slight specific differences, One nut, however, offers a speciality opposite to our purpose. If a section he made of the Ooquilla nut, in the direction of the diameter of its cells, we shall find on examination per microscope a closer approximation to the intimate structure of bone, than seen in any structure yet examined. We think it scarcely possible to find two tissues, the one vegetable, and the other animal, more closely resembling each other, than this figure, (fig. 62,) and the ultimate structure and arrangement of human bone cells.

Fig. 62.

We must now pass to another, and important part of our subject, viz; mineral matter, other than carbonate of lime, in the tissues of organized beings, viz: *Silica*.

As plants were formed prior to the existence of animals, they necessarily claim precedence at our hands, and its is expedient therefore to seek out an illustrate some of the prominent tissues in which this peculiar, and intractable material, is commonly found.

In the present state of our knowledge of the structure of plants, it is fair to say that silica is more abundantly produced in plants of *lowly*, than in those of *high* organization. Thus the *grasses*, which are a lowly tribe of plants, abound in this mineral, In the cereal grains, it forms a very important element of their constitution, thus: we see wheat, oats, rye, barley, &c., attain a great elevation from the earth, presenting slender, but perpendicular stems, surmounted by a heavy ear of grain. It matters not, how much they may be agitated by the stormy winds of Heaven, they succumb by waving to and fro, and return to their erect position, and nothing short of a hurricane of wind has power to break them down. How is this? It may be answered that the mechanical figure of the stem (stalk) satisfactorily accounts for this phenomenon—a short, hollow tube offering the greatest resistance to external pressure. As far as it goes, this is true enough, but there is yet in the stalk another element of strength, too generally overlooked, namely: it is found to be composed of a many jointed layer of flint, always presenting *two* distinct elements

Take the husk (chaff) of rye, place it in strong nitric acid, and boil it for five or six hours, to destroy all the organic cells; wash the residuum frequently with distilled, or soft water, and submit the product to the microscope, when a structure represented in fig. 63 will become apparent. In this tissue we perceive long bars of flint *b b*, with serrated edges by which they look into, or interlace with each other; these are connected at either end with ovoid particles of flint, *a a*, which represent the stomata, or breathing mouths of the plant The husk of oat, fig 64, presents a similar appearance, but smaller in size, whilst the like structure as seen in the husk of wheat, is shown at fig 65, in this last, the indentations of the edges are more than usually decided, and the structure, as seen by the same magnifying power is minute.

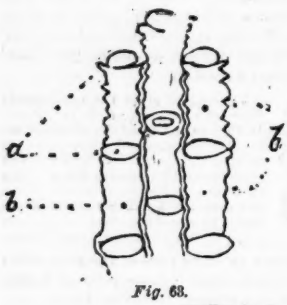


Fig. 63.


Fig. 64.

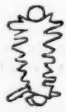


fig. 65.

The husk of rice presents a somwhat different character as seen in fig. 66. The long bars are more than usually compact, containing within them a wavy line, with nucleated cells; moreover, in place of stomata, we have merely a septum dividing one bar from another. In all these tissues it is easy to disintegrate them, by boiling in acid too long continued, in which case the elements described are completely separated.

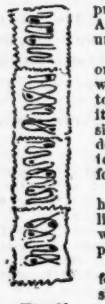


Fig. 66.

Grasses, other than the cereals present, when properly prepared, very beautiful illustrations. Amongs, these may be mentioned the Equisetum hyemale, Dutch rush, or scouring rush.

This plant possessed for many years, great economic value: its capabilities for abrading surfaces, was extensively employed by the cabinet maker to smooth his work preparatory to polishing it—it is no longer used for this purpose, however, since the introduction of *glass paper* of various degrees of fineness. But it is still used by plaster figure makers to remove the lines, or seems, formed by the junction of their piece moulds.

To use it, (to plaster) it is only necessary to hold a piece of the rush in the hand, and draw it lightly over the surface of the plaster to be filled, when it will be seen to cut with incredible rapidity.

The cause of this remarkable power is to be found in its *flinty* cuticle, which is peculiar, and singularly beautiful.

A representation of the flinty surface of this plant is given at 67.

It will be seen that the greater part of the surface is occupied by a cast (as it were) in flint, of a continuous tissue formed entirely of *nucleated* cells; the exceptions to this structure

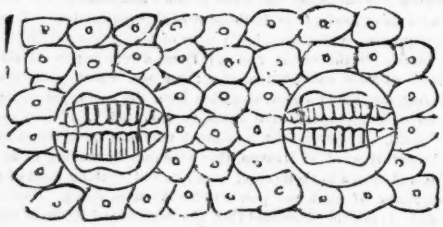


Fig. 67.

are to be found at either end of the figure, and present two large circular spaces, each having an irregular opening, and within, and *beneath* the openings, appear a pair of lips, of a peculiar shape, possessing serrtures at the points of approximation—these are the *breathing mouths*, (stomata)

As regards this last mentioned structure, this plant appears to stand alone; we know of no other instance in the vegetable kingdom of breathing mouths being *doubled*. The circular mouths appear to be *internal*, whereas the elongated stomata with the serrated edges are *external*, with their long axis disposed in the direction of the long axis of the plant.

There must evidently be some great necessity which this plant has to regulate, with more than ordinary precision the ingress and egress of air, and hence the *doubling* of a most important structure conferred upon all plants; we do not know, however, in what that necessity consists.

The cuticle of the bull-rush is very curious; between two rows of cells, each consisting of four cells arranged in linear (perpendicular) series, and remarkable for their uniformity, is a layer of cells somewhat larger in size, lighter in substance, and conspicuous for their irregularity, they are all nucleated.

In, and amongst the middle, irregular layers, very large cells will be found, each of which contains a stoma.

Silica, as shown by the foregoing illustrations, greatly abounds in the grasses; from the quantity of this mineral found in Reeds, they are said, during hurricanes in warm climates, to have caused extensive conflagrations by striking against each other.

But Silica is not confined to the grasses, it enters into the composition of all plants—from the lowest to the highest—its situation being, however, exceedinglingly various. In many trees the bark, in others the cuticle of the leaves, is the seat of this mineral.

In the latter case, it usually exists, not in a continuous layer spread over the entire surface, but in the form of *spiculæ* or hairs. As an illustration of this fact, we direct attention to a shrub as common in the gardens of this Country, as in Europe, viz: Deutzia scabra, [it has no common name] If the *upper* surface of a leaf of this plant be examined by the microscope, a number of [comparatively] large spiculæ, of a stellate form will be seen: they will be found to present from 3 to 6 radii, both of which are rare, as compared with spiculæ of 4 and 5 radii, which are by far the most abundant. We have shown


Fig. 69.


Fig. 70.

the latter in figures 69 and 70. If these figures be carefully examined, a number of angular particles will be seen on them, in addition to an internal structure of flint. Let us now *reverse* the leaf, and examine the cuticle on the *under* surface. See figure 71. Here we find a very dense mass of spiculæ, in contradistinction to spiculæ sparsely developed, and widely scattered, such as is displayed upon the upper cuticle; neither is this all: whilst, as we have seen, the radii do not exceed 6, on the upper cuticle, here they consist from 10 to 18. Moreover, whilst those on the upper cuticle are *large*, these are quite minute: both cuticles present an extremely interesting spectacle.


Fig. 71.

We are not aware that the leaves of Deutzia have any economic value, save that in this country as we have been informed] servant maids use them to polish their tin wares with, for which purpose they must be well adapted.

"St. Joseph Pioneer,"—This is the title of a new paper published at St. Joseph, which we welcome to our exchange list. It is neatly printed and ably conducted. Published by H. W Haskins, at $1 50 per year. May it meet with that success to which its merits entitle it.

THE MICHIGAN UNIVERSITY.

The University of Michigan, within the past twelve years, has assumed a position, as an educational institution, of which the people has become very proud. From a small, petty establishment, which was hardly respected as more than a second rate high school, and which the people looked upon as an expensive ornament or intellectual bear garden, it has been developed into one of the grandest institutions of learning and science on the continent, with the promise of a future growth of usefulness and reputation, of which all felt proud, and in which all felt secure, that in this direction, at least, Michigan was doing her whole duty to her youth, and to those who were to have charge of the State. The man who accomplished this great reform, and who has spent the best part of his life to bring all this about, has been HENRY P. TAPPAN, the late President. Within the past month, the people of the State have been astonished with the information that the Regents, whose term of office expires with this year, had taken the responsibility to pass a resolution assuming to remove Dr. Tappan from his position as head of the University, without any reason assigned, without extending to him the usual courtesy of tendering a resignation. The whole procedure is so base a display of a malignant and despicable spite on the part of the Board of Regents, that no man can characterize it as otherwise than as the most degrading exhibition of meanness and stupidity that it has been the misfortune of the State to suffer under, not even excepting the late McKinney affair. No accusation has been made at any time that Dr. Tappan has not been fully competent to fulfil all the duties of his position, that he was not earnest in their performance, nor that he did not comprehend the requirements of the Presicency, and his relation to the students, both morally and intellectually. The whole State, from one end to the other, asks, therefore, why was this great wrong done to the University, and by whom has it been perpetrated?

Ever since the present Board of Regents have gone into office, they have seemed to assume powers and functions totally at war with the interests of the institution, and by a sort of usurpation easily acquired, because to them was committed the supervision of the finances. The reports of every session revealed an exhibition of insulting procedure on the part of the Regents, which seemed to have no other design than to bring the head of the University into contempt, but which only recoiled on the authors. Finding that their term of office was about to expire, and the late election having shown them that the people had taken their measure, and had decided no longer to employ men of such calibre in that connection, at least, they determined with that exasperated rage which causes the wounded rattlesnake to sink its fangs in its own flesh and blood, to pour out all their long pent up venom in one desperate wound upon the interests of the University, and they did. They have struck it such an envenomed blow, that it is doubtful if it will ever recover. Our great educational institution, which has been guarded by the fostering care of its noble-minded and noble-hearted head from sectional and partizan strife, is now held up before the eyes of the civilized world as an example of the uncertainty and recklessness with which western institutions are menaced. The unmanly and unpatriotic, not to say the vile, selfish and rancorous action of the Board of Regents, have attached a stigma to our State that will deter the highest talent from seeking position here, where the labors of a whole life may be at the beck and nod of some blunderer, who has neither brains, nor heart, nor human sympathy for anything but the gratification of his low, petty spite, or a mean revenge for some dollars lost to his bank coffers.

The whole proceeding derives still more obloquy from the manner in which it was performed. The full Board of Regents consists of nine members; of these one is dead, and of course was not expected to be present, but he must have stirred in his grave at the disgraceful proceeding. Messrs. Ferry and Spalding were absent. There was present to form the board, therefore, but six, and these were Levi Bishop, of Detroit; J. E. Johnson, St. Joseph county; Elakin Brown, of Kalamazoo; Dr. Whiting, of St. Clair; Donald McIntyre, of Ann Arbor; and B. Baxter, of Tecumseh. Mr. Baxter refused to vote, the other five members, composing a bare quorum, voted for the resolution of removal. Now, who are these men who have thus tampered with the educational interests of the State? Is any one of them known for ability in any of the departments of learning? Where are they known in literature, in science, in art, in belles-letters, or even as respectable politicians? Is there a man of them that would be sustained in his own neighborhood for anything? What is McIntyre, the tool that has been used to work this foul wrong to his own nest? Who is Bishop, whose engineering powers have been exerted to turn the Board of Regents into a bar-room ward committee? Is Johnson competent to tell whether Bishop was right or wrong, or but a simple soft one, whose consistency was wax, that melted at the first touch of his fellow compeers? Is not Whiting the individual who was invited to resign from the army, but whose experience in that line

of business taught him that it was not courteous to grant such a privilege to a better man than himself? As for Brown, where has he made his mark? Go ask for him at home, or in his own neighborhood. These are the men who have assailed Dr. Tappan. They are the individuals who have dealt the University a deadly blow. These are the citizens who have betrayed the State which honored them. Already we note that sectional strife is being stirred up. Already has the observations lost the presiding genius that gave it fame and eminent place. Already we note bad blood springing up on every side, which we believe nothing can quell but decided action on the part of the new Board, as soon as they obtain possession of the position which the present Board of Regents have so foully dishonored.

STATE AGRICULTURAL ITEMS.

Horse Sold.—Byron Green, of Ann Arbor, sold his chestnut horse "Davy," a few days since, to D. W. Kellogg, of Toledo, for $1,000. Davy was sired by Newland's Morgan, and is a noble horse.

Race to Come off.—A trotting match is soon to come off between Green's Henry Clay and Stockbridge Chief. There is to be two trials, one at Ann Arbor, and one at Adrian. Purse, $600.

A Wool Challenge.—Marcellus Vangieson, Esq., of Dallas, challenges the wool growers of this county to compete with him in heavy fleeces of wool. He has sheared seventeen pounds of wool from a Spanish Merino buck, three years old. The wool is one year's growth. Recollect the age of this buck. Who takes the challenge? *Clinton Co. Republican.*

Fruit Prospects.—The large orchards within what is known as the "Fruit District," give every appearance of a large crop the present season.—*St. Joseph Traveller.*

☞ The fourth annual fair of the Hillsdale and Lenawee Union Agricultural Society, is to be held at Hudson on Tuesday, Wednesday and Thursday, Oct. 6th, 7th and 8th.

Big Yield.—Elias Field, of the town of Bruce, informs us that he has a ewe which has produced twelve lambs in three years, and fifteen in four years. We consider this a pretty large crop. Who can beat it?—*Romeo Argus.*

The Largest Load of Wool.—Isaac Dunn, Esq., of the town of Ann Arbor, delivered his clip of wool on contract in this city last week. He brought it (2,160 pounds,) at one wagon load. It was purchased by P. Balch, at sixty cents per pound. Nearly $1,300.—*Ann Arbor Argus.*

Fruit Prospects.—It is reported that there never was a better prospect for fruit of all kinds in this county than at the present time. Apples, pears, peaches, plums and cherries, have a promising look, and if no late frost nips the buds, we may expect more fruit this season than any previous year.—*Sanilac Jeffersonian.*

TO OUR FRIENDS—OUR ENLARGEMENT AND UNEQUALLED PREMIUMS.

We this month appear before you greatly enlarged—giving fifty pages this issue—thus making the Michigan Farmer one of the largest agricultural monthlies in the United States. Of course, this is at a greatly increased expense for publication; but we hope by this method to so strengthen the hands of our friends, and add to our list of subscribers, that it will amply repay us for the outlay, and satisfy our readers that we are desirous to give them *as much*, if not *more* reading matter, than any monthly journal in the East or West, thus making it an object for all to send their money to the market where they get the largest return. We have altered the shape, so that it may be more easy to handle and bind in book form.

Our premiums have not been excelled for liberality. We do not offer one large object which only *one* can secure, but something that *every one* who sends us *one* new subscriber *can* obtain—*i. e.*, a splendid Pocket War Map, containing eighty-four pages of valuable statistical information, or twenty-five *Triomph d'Gand plants*, (the largest and most widely known, yet scarce strawberry, now before the public). This is a larger number than has ever been offered by *any* paper for a *single* subscriber. Directions will be sent with them as to the proper soil, and best means of cultivation. For three $1 subscribers we offer the new, delicious and hardy Delaware Grape, whose fine qualities have been so little tried or known in Michigan. For five new $1 subscribers, from one address, our premium is "Excelsior"—200 Triomph d' Gand Strawberry Plants! at the rate of *forty plants for each subscriber;* or two Delaware Grape vines, or Mrs. L. B. Adams' beautiful Book of Poems, entitled "*Sybelle.*" Our club rates are exceedingly low.

We trust that every friend of the *Farmer*, as soon as he gets this number, will, before another issue, send us either one, three or five subscribers, and thus secure a premium and add to our list, and by so doing will enable us to develope the great agricultural interests of Michigan, *at home* and abroad. Hereafter, our terms will be $1 in advance, or $1.25 if not paid at the expiration of three months.

For the Michigan Farmer.

WHEAT—THE HESSIAN FLY.

MARSHALL, Mich., June, 1863.

MESSRS. EDITORS,—Many, very many wheat fields in this vicinity, and as I am informed in other sections of our State, are suffering sadly from the ravages of the Hessian Fly. Last fall, as those of your readers are aware who are acquainted with the habits of this insect, was a season most favorable for its multiplication. As the fly is in the greatest state of activity in the early part of September, wheat sown in that eason and earlier, will be most liable to be injured, while if the sowing is deferred till towards the last of the month, it will in a great measure escape. Notwithstanding this, many farmers seemed determined not to profit from the lessons of past experience, and finished sowing their wheat the last of August and first of September. The wheat put in at this time, especially in light sandy loams not highly enriched, was almost ruined by the fall attacks of the fly. Fields comparatively little molested in the fall have within the last few weeks given unmistakable evidence of its spring attack. Judging from their present appearance, the yield will be diminished at least one-half by the ravages of this miserable pest.

In a late communication to the Country Gentleman, John Johnstone states that last fall, against his better judgment and past experience, he departed from his usual practice of sowing about the 20th, and sowed on the 5th and 6th of September; he attributes the total failure of his crop to this early sowing, where he fully expected about 40 bushels per acre. I am satisfied from my own experience and observation, that it is folly to sow so early as many farmers are in the habit of doing.

On the sandy loams of Michigan, when *rightly tilled*, seeding may be safely be deferred until after the middle of September; a sufficiently vigorous growth in the fall will be insured, whilst the crop will be far less exposed to the spring and fall attacks of the Hessian fly. It is obvious to all, no doubt, that to reap the full benefits of later sowing, as a protection against the fly, the practice must become universal.

WM. R. SCHUYLER.

PROFITABLE EWE.—J. D. Corey, Esq., of Manchester, has a Ewe that is doing her share to meet the drafts of the war. About three weeks ago she gave birth to four lambs and all are alive and doing well. Who owns her equal?

☞ The best soil for roots, strawberries, corn, garden, or the like, is a good natural soil, or ground made rich years before. 2

SHEEP HUSBANDRY.

And its Importance to the Loyal States.

[CONTINUED.]

In our last week's issue we called attention to the immense increase of importations of wool since January last, as compared with former years, showing that the number of bales received in the first five months of the present year is equal to the whole number of bales received in the two years of 1860 and 1861, and nearly equal to the whole imports in 1862, which were by far the largest on record. This increased importation shows conclusively the confidence of wool dealers in a greatly increased demand in consequence of the falling off in the cotton supply. In order that wool-growers may not be misled, it may be proper to state that the large proportion of imported wool is exceedingly coarse, and only suited to the manufacture of carpets, blankets, and other extra heavy coarse woolens. It is confidently believed that the high rates for exchange, and the increased tariff on worsted goods, will enable the American manufactures to produce them profitably hereafter, provided the wool best suited to the purpose can be obtained; and the question is, *shall it be imported, or will the American farmer produce it?* The wool required for worsted is that which will make the smallest and strongest thread with the least nap from the smallest amount of stock. No wool is so well adapted to this as the long sound staple article, clipped from the "Leicester" and "Cotswold" breeds, and the yearling wethers' wool from these breeds is far superior to any other. Combing takes out what is called "noils."* If the staple is weak it will break at the leader part, shortening and reducing the length by the amount broken off, and increasing the "noils," which is of far less value than the long wool. At the present time the great want in this country is wool to make warps. Plenty can be found for filling, but warp wood is scarcely to be obtained at all. It cannot be imported from Europe, as the scarcity of cotton will compel them to a larger use of worsted warps, and *wool adapted to this purpose will command a much higher price than any other.*— The high rates for exchange will further operate to prevent importations of warp wool. In the manufacture of worsteds in England, forty years since, no cotton warps were used. In Bradford, the great worsted city of Great Britain, and of the world, as late as 1844, there was not a single factory using cotton-warps, and only a few cotton-warps were used in Halifax and vicinity in the production of "lastings." The yearling wether's wool is what constitutes the famous "hog" wool of England, which is nothing more nor less than the yearly wether lambs' wool, and the best in

the known world for the production of worsted fabrics. When the demand is great the yearly wethers' wool cannot be found in sufficient quantity, and it is therefore mixed with the wool from the older sheep. Ewe's wool is never used for warp. It is short and weak and lacks the curl and beard of the yearling wether's wool. A yearling ewe's fleece is, however, as good *as* a yearling wether's, provided she has no lambs. If she comes in with lamb the first year, the fleece is weakened and unfitted for worsted-warps. Suckling the lamb impoverishes the mother, and loss of condition in any sheep weakens the staple and greatly increases the amount of "noils," or broken and short fibres.

In order to secure first class wool, sheep should always be kept in an improving condition. It is an established principle in animal economy, that those who take the best care of stock, no matter what kind it is—horses, cattle, hogs, or what not—universally secure the largest profits, and to no class of stock does this principle apply more strongly than to sheep. In this lies the superiority of the English wether. It is always kept in an improving condition, fattening for the market, and never allowed, if by any means it can be prevented, to lose flesh. It is almost impossible to keep up the condition of ewes. Their health will be variable, and their fleeces equally so—stinted in growth—bottom cotted, or felted, with a weak place in the staple, which grew when the sheep was out of condition.

As we have before said, the "Leicester" and the "Cotswold" are the breeds best adapted for producing the wool most required at the present time. Their carcasses are large, and the wool of long staple, which renders them more valuable both for the fleece and mutton. Let the farmer bear in mind, however, *that it is the yearlings and the wethers that will pay him the greatest profit.* The wethers' if well cared for, will be very large, producing heavy fleeces, and making as good mutton as the famous "Southdowns" of England. We saw a notice in one of the daily papers, but a few days since, of five wethers having been sold in this market for fifty-five dollars, and of twenty-one wethers for two hundred and thirty-one dollars. Many of the farmers in our country, after securing a good flock of sheep, allow them rapidly to degenerate by breeding in, and by disposing of the lambs and keeping their old ewes. This is more frequently the case where farmers have a good market for lambs.

It will be well to bear in mind that the fleece of a sheep deteriorates every year, and the wool from ewes, with two lambs, is scarcely worth half as much as the fleece from a yearling or wether. Fleeces from a yearling wether have frequently been sold in England for as much as two lambs from an ewe, together with her fleece, while the wether had greatly increased in value during the year, and the ewe had decreased.—*Ewes should be kept until two years old before coming in with lambs.* The increased weight of wool, the increased size of the ewe and lamb, and their improved condition, will more than compensate for a year's patient waiting. Breeding from too young deteriorates as much as breeding from too old. To keep a flock in a thriving condition no old ewes should be kept, and the rams should be changed often, taking care, in all cases, to obtain them from some other flock, and to breed from no ewes less than two years' old. The fleeces will be larger, the wool better, and will consequently bring a better price. Wool adapted to the production of worsted will hereafter command a higher price than any other, as we have the strongest assurances, from parties well informed upon the subject; that the manufacture of worsted goods will at once be commenced in several parts of New England upon a large scale, and with skill and capital which will, it is confidently believed, insure success.

It has been suggested to us that it would be well to condense our articles on "Sheep Husbandry" as much as possible, in the hope that they will be copied by other papers, and thus be more likely to reach the farmers throughout the country, and especially in the West, for whose benefit they are intended. We have shortened the present article in accordance with this suggestion.—Our information is obtained from parties who have the reputanion of being as well informed as any in America on this important subject. The object is to show that "Sheep Husbandry," if followed with reasonable judgment, has always been profitable in this country, and that, in future, the demand cannot fail to be far greater than ever before, both for wool and mutton, at much higher prices, making it safer and more profitable than any other branch of agriculture in the Northern and Western States. And, furthermore, that *there can be no good farming without sheep.*

For the last eighteen months Cotswold and Leicester fleeces have commanded as high prices in this market as Saxony and merino fleeces, on account of the demand for army clothing, and with the addition of a large demand for worsted purposes, and for the production of coarse woolens for civilians' wear that can no longer be imported with profit, there cannot be a reasonable doubt that coarse wool will find a sure market at remunerative prices. A gentleman of long experi-

*"Noil" is the short fibres of wool separated from the long by combing.

ence in the wool business, and of not over sanguine temperament, expressed to us but a few days since his conviction that fifty millions of pounds of coarse wool could be disposed of annually in this market. We have recommended the increase as far as possible of the Cotswold and Leicester breeds, for the reason that their wool is peculiarly adapted to the production of worsted fabrics, and in no country in the world is there likely to be so good a demand for worsted geods for years to come as in this.

We are informed that the Cotswold breed has been crossed with good success with the Spanish merino. It is related to us that a gentleman in Massachusetts had in 1853 a flock of Cotswold sheep, and living in a section of country where there was a good market for lambs, he had for a number of years disposed of them and kept his old ewes until their wool had become cotted (or felted), tender and slippery, the natural result of such a policy. The person who had bought the wool for a number of years finally refused to buy it any longer. The owner of the flock determined to change his policy, and bought a large merino buck, kept his lambs, killed sold off his old ewes, and by strict attention and good care has to-day the best flock of worsted sheep in that part of the country. He gets a heavier fleece, his sheep are equally hardy, his lambs are as heavy as they were before the cross, and he obtains a better price for his wool in proportion to finer grades.

A very large proportion of the sheep in the Western States have a strong tincture of merino blood, and might be crossed with the long wooled sheep, if thought desirable, *but the main point is to increase the number of sheep in the country as rapidly as possible, and of worsted sheep in particular.* No sheep except the aged should be disposed of for slaughtering.

At the present time there are about 20,000,000 in the loyal States, and this number ought to be doubled at least if the demand for wool is to be supplied by the home production in future. We visited a large wool house a day or two since, and were shown wool from nearly every country on the face of the globe. If we had visited a produce house, and had been shown samples of corn and wheat which had been imported from all these countries, it would have appeared to us quite as consistent. The rich lands of the West are just as well adapted to sheep husbandry as to the production of corn and wheat, and the two branches of agriculture can be carried on more profitably together on the same farm than it can be done separately. It is an established fact that sheep enrich land more than any other domestic animal. In Illinois where the production of corn is so great, the farmers would find it exceeding profitable to have a flock of sheep to consume a portion of their surplus corn in Winter instead of disposing of it, as they have frequently been compelled to do within the last five years, at a price scarcely paying the cost of production. In the Winter of 1860 and '61, we will remember that corn was selling in this market at 65 cts. a bushel, when the transportation and expenses of selling cost full fifty-five cents. This left but ten cents to the farmer. Corn is the very best Winter food for sheep, but it should be varied each day by hay, turnips, carrots and other vegetables. In what way could the farmers of that country dispose of corn to better atvantage than in feeding flocks of Leicester and Cotswolds, which, with reasonable care, would produce fleeces that would average from five to six pounds as they do in Canada, and that in all human probability will sell for years to come at not less than forty cents a pound, and if the war continues will be more likely to sell for sixty cents than forty? On wheat lands sheep are regarded in England and by some of the farmers in America as an absolute necessity. The Hon. H. S. Randall, of N. Y. State, one of the best ablest writers on sheep husbandry in the country, in a report to the State Agricultural Socirty last year, declares, "on our grain growing soils, at least, sheep are an absolute necessity of good farming." In the report he quotes an extract from a letter written by Mr. Johnson, of Geneva, whom he speaks of as "one of the best wheat farmers in the State" in which it is declared that "sheep and wheat farming ought to go hand in hand in this country." One of the best farmers in Ohio of whom his neighbors say that "everything *he* touches turns to gold," related to us a short time since his custom of turning his sheep in the wheat fields for about a week at the close of the Winter frosts before the wheat begins to grow. The sheep, he said, would eat off all the frost bitten blades, and by cutting the wheat down close to the roots, trampling into the soil the roots that are thrown out by the frost, and by distributing manure over the field, would produce a new and more vigorous growth of wheat from the roots at the same time benefitting the sheep by a fresh feed before the coming of the Spring grass. Farmers in the West that have never kept sheep would do well to try the experiment by purchasing a few, and if not found profitable, there would be no great loss. If well cared for they *will* prove profitable in any part of the North or West, as has been demonstrated, for the last forty years.—*U. S. Economist.*

Cut your grass before fully ripe to make *good hay.*

Management of Mowing Fields.

A correspondent from the Germantown Telegraph, says:—There appears to be a very great discrepancy in the practice of our farmers in managing their mowing lands. The want of system is too generally observable even among the most judicious and intelligent, and the reason of this undoubtedly, is the tenacity with which, as a class, we cling to old usages, and the customs of our predecessors, which we adopt as precedents, and plead in justificatioh even of tenets which are clearly wrong. One great cause of the speedy emasculation of grass lands, is the imperfect methods adopted in laying them down. It is supposed by many that a good "catch" cannot be secured unless the grass seed is sown with an accompanying crop of grain to protect the nascent plants from the too direct rays of the sun, which is supposed to exert a stultifying influence, and to greatly retard its developement and growth while young. With equal propriety might the cultivator of corn permit the growth of weeds in the fields occupied by that crop upon the preseumption that the shade afforded by the former is a protection to the latter, and tends to keep the soil moist by preventing the evaporation of moisture during seasons of excessive drought. No sane man, however, can believe this. All vegetables exhaust moisture, and a redundant developement of course effects this with a rapidity proportioned to its extent. Consequently the practice of sowing wheat, oats or other grains with grass seeds, must deprive the latter of a portion of the liquids necessary for the solution of their appropriate food, and it is only in a liquid or fluid state that they can receive their aliment, be it of whatever character it may.

Experience has shown that the most judicious, and, ultimately, most economical method of laying lands to grass, is to sow the seed immediately after corn or potatoes, or some other weeded crop, and without any accompaning crop. This insures a ready and vigorous germination, a rapid and healthy developement of the youthful plants, and a remunerating crop, and secures a sustained production which can be effected so readily and cheaply in no other way. In examining carefully fields managed in this way, we shall find that the plants have a much broader expansion, and firmer grasp upon the soil, than the roots of the same kind of plants on lands which have matured a crop of cereals.

By cleansing the surface of lands after taking off a crop of potatoes, for instance, thoroughly pulverising it by harrowing, having previously applied, broadcast, a few cords of fine compost, or old well-rotted stable manure, and sowing herdsgrass, red-top and clover, allowing about double the quantity usually sowed, and covering it by means of a suitable harrow, followed by the roller—we shall be sure to secure a good crop of hay the next year, which will exceed in value the grain which the soil would have produced, to say nothing of the exhaustion of the soil which the latter would necessarily effect.

If we examine grass plants growing among wheat, oats or barley, or indeed with any dry crop, we shall find them exceedingly weak and spindling; the foliage, when there is any, pale and thin, and the whole appearance of the plant indicating imbecility and disease. Such is not the case where the seed is sowed by itself. It then starts vigorously, comes forward with a rapid and sustained developement, and is not subject to those sudden and fatal checks which militate so powerfully against their advancement when shaded by grain.

Very few farmers top-dress their grass lands.—Many regard manure applied in this way a dead loss. Progress and experience will correct this mistake. The application of special fertilisers to mowing lands, is now becoming quite common, and where the soil is replete with the staple of vegetation, the practice is unquestionably highly judicious. Gypsum, superphosphate of lime, muriate and nitrate of soda, guano, saltpetre, lime and poudrette, are all used successfully for this purpose. On clayey or argillacious soils, gypsum is of great value and efficacy; it stimulates and strengthens the roots, and by exerting the absorbent system, induces a rapid and energetic circulation of the vitalising fluids. The universality of its use, for this purpose, wou'd seem to afford a full attestation of its great excellence, not only as a top-dressing for grass lands, but also for lands under grain cultivation, wheat, rye, oats, &c.

Soil Under Buildings.

Whenever soil is covered for any length of time by buildings or other objects which prevent transpiration, nitre or saltpetre is generated, and this is greatly accelerated if the building is occupied by animals, especially by the horse. This soil is of great value in compost, and will well and amply repay the farmer for removing and applying it to his soil. In compost it is highly useful. As a top-dressing, few articles are more efficient, and when applied in sufficient quantities to all light soils, and in conjunction with lime or wood ashes, it acts with great vigor, and secures a most healthy and luxuriant growth. The per centage of alimentary matter contained in grass, manured with nitrous earth, has been exhibited to be greater than that supplied by an equal weight of hay grown on land manured with putrescent substances simply. It is also more palatable, much more

elastic in the fibre and foliage, and consequently less liable to loss, as well as more easily cured.—The soil under tie-ups, lintels, barns, wood-houses and stable-floors, should be removed and saved every three or four years, and replaced by muck or some other substance which will be transformed into manure. That is, always supposing that the earth can be conveniently got at.

Vertigo or Giddiness in Sheep.

M. Reynal considers vertigo a disease in the nervous system caused by a worm—the *cœnaries cerebralis* (located in the brain) belonging to the *hydatid* family.

Lambs from the age of two months, or from four to twelve months become the subjects of it; and it rarely affects them after the age of eighteen months. The disease is likely to end in *atrophy*—wasting of both the brain and spinal marrow.

In the rank of principal causes he places, first, "Hereditariness." Secondly, "Intercourse between the two sexes too prematurely, especially the employment of a ram for *tupping*, not more than six or eight months as is often the practice in some parts of the country."

To guard against the disease.—"Put out of the breeding fold both males and females that have shown any signs of disorder, and not breed from ewes under the age of thirty months, nor from the rams until they have attained their second year.

And if there be any binding conclusions to be drawn from the influence of a first foundation or necessary one, we ought to put away from the flock females who, tho' apparently healthy themselves have produced diseased stock.—*From the French.*

Wash for Barns.

There, is says the Coun. Gent., no cheap substitute for oil paint. All the different kinds of white-washing are incapable of shutting out moisture. The sides of buildings especially exposed to rains, will lose a portion of any kind of wash by the combined action of frost and moisture.—Oil paint obviates this difficulty.

There are many different kinds of wash, recommended; but, with a single exception we have never found anything better than a mixture of good lime water. This exception we have made a thorough trial with. A rough barn which received a coating four years, now retains most of it, although a considerable portion is scaled off on the most exposed side. This wash is made substantially as follows: One peck of fine beach sand, three pecks of water lime, and four quarts of salt. These proportions might vary without detriment—there should be as much sand as can be conveniently applied with a brush. A farm laborer applied this mixture early last summer to two rough barns, one about 30 by 55 feet, the other 20 by 30, in 3 days, consuming two bushels of waterlime, which was nearly the whole cost of the material. The coating, now of nearly one year's standing, appears to be as good as the day it was put on. It will be perceived that the expense is only about one-tenth the cost of a coat of paint.

Packing Fleece Wool for Market.

A correspondent of the Albany Cultivator furnishes the following description of his method of tying up wool fleeces, and of the box used for that purposes:

"Make a square box, say two feet high, eighteen inches square at the bottom, with a gradual sloping increase to the top, making it twenty-two by twenty-four inches at the latter—have it well dove-tailed together—no top or bottom. On the top, midway of each side, saw down three or four inches; in these cuts place two strings reaching to the bottom, (which should set on the surface,) crossing each other at right angles on the bottom, the ends hanging over on the outside sufficiently to tie. When the fleece is completely rolled up, place it in the box, step into it with your feet, pressing it down; then bring out of the cuts the end of the twine and fasten across the ends of the fleece each way. Turn the box upside down and press out the fleece. It will come out square and compact, and will not need more winding to keep it in shape, if properly handled.

The Asparagus Beetle.

We last month, says the Horticulturist, briefly alluded to the interesting discovery of M. Marie, that this beetle passes the winter in the imago or perfect state, concealed under the bark and among the moss of trees. This fact is contrary to the popular belief, but places the destruction of this beetle within the reach of all who take the trouble to seek him in his hiding place. We visited Mr. Marie before he had completed their destruction, and had an opportunity of seeing the conditions under which they were found. They huddled together in masses under the loose bark, and also among the thick moss adhering to the trees. This enables one to kill numbers of them as it were at a single blow.—They do not seem to be particular on what kind of a tree they seek shelter, for quite as many were found on the Red Cedar as on the Hickory or Oak. We meant to have looked for them among the old stalks lying on the Asparagus bed, but forgot to to do so; but we should not probable have found them there. We regard the discovery as a very important and interesting one. It is singular that nobody should have made it before. If left to itself, the destruction of Asparagus as a luxury for the table is quite certain, if we are to judge from the effects already produced by it.

Qualities of the best Vegetables.

There is so wide a difference in the quality of vegetables, that we are frequently surprised to see the indifference in regard to the purchase of vegetable seeds for sowing and planting. This is an error, which may be readily corrected. No person who desires garden esculents of fine quality, need be without the best, if he will only take the trouble to make his selection of seeds, with a little more than usual care. Somebody has laid down the following as a criterion to a certain extent, by which the quality of some leading esculents may be determined. We think him right, and commend his views:

In the blood beet we always look for a deep color, smooth, handsome form, small top, and sweet, tender flesh. In the orange carrot, small top, smooth root, and deep orange color. In the cabbage, short stump, large, compact head, with but few leaves. In the cucumber, straight, handsome form, and dark green color. In the lettuce, large, close head, pleasant flavor, with the quality of standing the heat, without soon running to seed. In sweet corn, long ears, very shrivelled grains over the end of the cob. In the cantelope melon, rough skin, thick, firm flesh, and high flavor. In the water-melon, thin rind, abundant and well-flavored juice and bright red core.—In the onion, thick, round shape, small neck, deep color, mild flavor and good keeping quality In the parsnip, small top, long, smooth root, and rich flavor. In the pea, low growth, full pods, large and tender peas, rich flavor. In the scarlet radish, deep color, small tops, clean root, and quick, free growth. In the squash, medium size, dry, fine-grained, deep, colored flesh. In turnips, handsome form, small tops and tap root, sweet, crisp flesh.

Those who have never seen better sorts than they possess, suppose they are of the first quality, when they may be very inferior, or almost worthless, when compared with the finest varieties.

The Use and Properties of Lime.

Special Properties of Lime.—Lime or oxide of calcium, is a white, porous substance, which is highly caustic, and possesses a great affinity for water. When water is added to caustic lime, it first absorbs it and then combines with it; during this process great heat is envolved. If slaked lime be left exposed to the air, it gradually absorbs carbonic acid from the atmosphere, parts with some of its water, and becomes reconverted into carbonate of lime.

To What Soil and Plants is it Best Adapted.—Lime should be applied to clays, loams, peats, &c. indeed, every fertile soil contains lime. The only soils that do not require liming are the sandy ones, and those deficient in organic matter. All plants which we generally cultivate extract lime from the soil. It is usually applied to the wheat and barley crops, also to pastures.

Its Mode of Application.—The most general modes are to apply it in its caustic state, and in the form of compost; the letter is the most expensive, and perhaps the most efficient for several other fertilizing substances are added with the lime to the soil.

The Duration of its Fertility.—Its duration depends upon the kinds of lands, the depth of the soil, the quantity of vegetable matter it contains, and upon the species of culture to which it is subjected. When the lands is wet or not well drained, it must be frequently applied, and heavy doses. On the other hand, when the soil is dry, a smaller application at longer intervals will suffice.

The Chemical Effects.—The chemical effects of lime upon the soil are chiefly the following: When caustic lime is laid upon the land it combines with all the free acid matter it may contain, and in doing so, the soil is very much improved; several of the compounds thus produced enter into the roots, and feed the plants. It also decomposes some of the compounds of potash, soda and amonia, by which these substances are set free, and placed within the reach of the plant. Another action is to destroy the salts of manganese, iron and illuminum, and to render them unhurtful to plants. Its presence in the caustic state hastens the decomposition of organic substances.

Indian Corn---Statistics.

A HINT OR TWO ABOUT THE CULTIVATION.

A correspondent of the Prairie Farmer, says:—It appears from our national statistics that 592,071,104 bushels were produced in 1850, and 830,451,708 bushels in 1860, and we expect the crop in the United States to be nearly 1,000,000,000 bushels this year. Nothing more is needed to show that this crop exhausts immense labor and yields immense returns. Besides being the best of human food, it indirectly furnishes a large portion of all the meats, milk, butter and cheese consumed at home and shipped to foreign nations. Of the quantity produced, one may form some conception by considering that allowing only 50 lbs. to the bushel, and loading carts with the rate of one tun for a load, it would require 3,750,000 teams to remove so much as may be grown in Illinois alone this season—that is 150,000,000 bushels.

The teams required to remove this, if formed in procession, allowing 16½ feet for the length of the horse and cart and a very short space between, would occupy a space of about 11,719 miles, long enough to reach nearly half round the globe.—If the 1,000,000,000 bushels prospectively to be grown this year in the United States were to be thus removed at once, the train would gird the earth more than three times.

The crop we suppose is now planted—much of it handsomely up, being cultivated for the first time. What is yet to be done to secure success, needs to be done soon. Haying and harvest are at hand. After the 10th of July, the farmer will find it difficult to bestow time upon the corn field till the roots will have so permeated the ground that they cannot be disturbed without injury. It is true that if the roots are severed, other roots will grow, two to one, if you will have it so, for all that are mutilated. But that does not prove that mutilation is of no injury to the crop. The truth is that the effort of the plant to form new roots is so much taken from its power to produce corn. Whether the mutilation of the roots is attended with a loss of sap is not perhaps so certain nor is it certain whether the healing of the wounds is so perfect that the plant ever becomes as healthy as if no wound had been inflicted; I am inclined to think not. It is contrary to nature that the roots should be torn and sundered, and the grounded extremities should be soiled with earth just at the time when the energies of the plant are aequired to mature the seed. And it certainly hinders some days the ripening, and thus increase. the exposure to fall frosts should they come unusually early. For these reasons, and because it is almost impossible for the farmer to be much in the corn field after the 10th of July, I would say, do what you can for the corn fields before that date. Keep the weed down this month; make all right, and be ready to say as the harvest approaches, that work is done and well done for this year, and be able to commit results to a benignan. Providence, with a consciousness of having done your whole duty, and with no dread of having to mingle this kind of labor with the severer labors of the harvest.

Ventilating Hay Stacks.

It is not every farmer who has barn-room, says the Country Gentleman, for all the hay that he cuts, and must necessarily stack some of it out of doors. Newly made hay, when exposed to the weather in the stack, is more liable to injury from heating than that which is put into the barn. It also not unfrequently occurs that from threatened bad weather, or in order to secure hay which is cut near the close of the week, that it is put up before it is thoroughly cured. Injury from these causes may be entirely prevented by exercising a little care in ventilating the stack when it is put up. With this precaution, hay that is quite green will cure finely in the stack, and come out sweeter and better than that which is too much exposed to the sun in curing. Our practice has been, first, to lay a good foundation for the stack, of old rails or poles, laying two tiers, and crossing them; then to stand five or six others up in the centre, eight feet long, and two feet apart at the bottom, the ends coming together at the top. If these are allowed to extend to the top of the stack, they will be in the way of finishing off, as the stack diminishes. But in order to extend the opening to the top, when the ends of the poles are reached, a round smooth stick, prepared for the purpose and inserted between the ends of the rails at the top, and the stack built up, and as it rises the stick is drawn up, and when the stack is somewhat settled it is taken out entirely. A hole is bored thro' the end of the stick, and a rope or a wooden pin inserted to draw the stick up with. This centre piece may be six or eight inches in diameter; the leaving an air passage from the bottom to the top of the stack. When the hay has passed through the sweating process, and all danger of moulding is passed, the opening at the top is closed with a cap of straw or hay. This precaution costs but little labor, and in many times compensated by the superior quality of the hay.

HORTICULTURE.

Training Fruit Trees.

It is an old saying that, "As the twig is bent, the tree is inclined." This is true at present, therefore train your trees properly when young and they will amply repay by being ornamental, vigourous and profitable when matured for fruitfulness. June and July are recommended by some of our best horticulturists as the best months for trimming, as the strong growth cause the wounds to heal quick and canker less. We give below three of the best methods of training fruit trees, and hope that the readers of the *Michigan Farmer* will model after them. A well proportioned tree is pleasing to the eye and a profit to the pocket.

NUMBER ONE.

Fig. 1.

This is designed to show the best way to trim a fruit tree. The principle is to avoid starting 2, 3, or more branches from the same point, or height upon the upright stalk, but to vary them a little, so as to avoid crotches, and to divide gradually its branches. It will apply to most kinds of fruit trees, but of course more particularly to those that grow high, such as apples and cherries. A tree trimmed in this manner is not as liable to break down; is easily ascended for the purpose of plucking its fruit, is more ornamental, and is believed to be a better and more durable tree than one trimmed in the ordinary way.

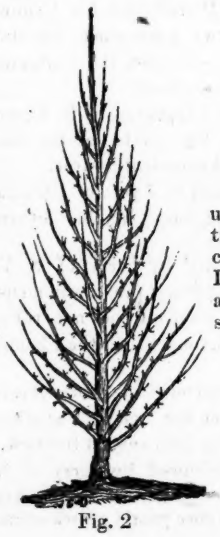


Fig. 2

NUMBEB TWO.

Is designed to show the usual method of pyramidal training. Most fruit trees can be trained in this way. Dwarfs for small gardens are very ornamental when so trimmed.

NUMBER THREE.

Is the mode of training against walls or trellises. It is rarely seen in this country, but is desirable for early fruits or those that need protection. They are called Espaliers.

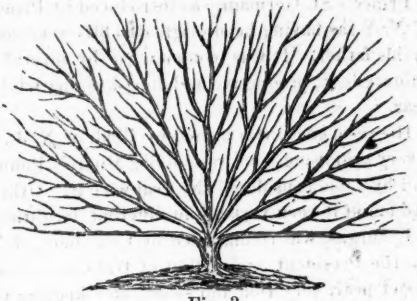


Fig. 3.

For the Michigan Farmer.

AMERICAN POMOLOGICAL SOCIETY.

After listening to the remarks of Mr. Johnson, the society resumed business, by proceeding to the discussion of Pears.

The Brialmont was commended by Baker of Mass., and Bergen, of New York, as a large, beautiful, productive and vigorous variety; ripening in November.

Pater Noster, was characterized by Ellwanger, of N. Y., as a fine, large elegant pear, ripening in January. The President concurred in this description, except as to size.

Jackson Pear was recommended by Reid, of N. J., and the President, as an oblate, medium sized yellow pear. Worcester, of Vt., remarked, that it is one of the few pears that can grown in that region—r pening in September.

Belle Williams was introduced by Ellwanger, of N. Y., who described it a very fine, elegant pear, green, turning yellow at maturity; of the size of a medium, well-grown Bartlett. Received from England. It was also commended by the President.

Beurre Koning was proposed by Reid, of N. J., as a medium sized, good pear, keeping through October. Also commended by the President and Earl, of Mass.

Hagerman was proposed by Prince, of N. Y.; who characterized it as much like the Seckel, but a little larger and earlier.

DeTongres was introduced, by Bucklin, of Mass. as a large russet pear of great beauty, keeping well after ripening. In season through October and November. Also known as Durandeau. It was widely commended.

Manxion, was proposed by Reid, of N. Y., and the President, as a rather small, bergamot shaped pear, of the best quality. Similar in appearance to the Merriam.

Urochlau was recommended by Ellwanger, of N. Y., and James, of Penn., as a little larger and better than the Bloodgood, and similar in season and appearance. Houghton, of Penn., doubted its good character in his vicinity.

Prince's St. Germain, was introduced by Prince, of N. Y., as having been originated fifty years ago, by his father. It was commended by several as an excellent, productive and long-keeping winter pear.

Hosenschenck, was named by Reid, of N. J., as a very promising pear, resembling Moore's Pound, and by some considered identical with it. Others had found it very variable in different localities.

Lycurgus, was commended by Chambers, of N. Y., the President, and Elliot of Ohio, as a small russet pear, very rich and sweet, and keeping till the first of April.

Rutter, was introduced by Houghton, of Penn. as a new seedling from that State; hardy, vigorous, high-flavored, sugary, juicy and vinous.—A promising pear.

Conseiller de la Cour, was recommended by the President and a large number of members, as a very vigorous, healthy tree, with persistent foliage and large sized, green fruit, keeping till late in the autumn. Some expressed doubts as to its productiveness.

Henkel, was proposed by Parsons, of N. Y., Reid, of N. J., characterized it as "having no superior." The President had received the same pear from Belgium, as the Cumberland.

Duchess Helena d'Orleans was introduced, by the President, with specimens, of the correctness of which he was in doubt. He thought it about on a par with Buerre Clairgeau.

Emile d'Heyst, was introduced by Baker, of Mass., to draw out the opinions of the members, several of whom characterized it as one of the best and most productive of late pears.

Marie Louise, was proposed by Carpenter, of N. Y., and was highly praised by many while others had found it variable.

Island Pear, with specimens, was introduced by Bergen, of N. Y., and characterized as a pear of first quality, but of no great size or beauty.—Specimens referred to the Committee on New Fruits.

Kirtland, was also introduced by Bergen, as a a pear of nearly first rate quality, and the tree a good grower.

Beurre Gambier, was proposed by the President, who had received it from Europe, with the synonym Buerre d'Hiver Amboise. He had found it very fine, keeping till late in autumn. Very similar to Easter Buerre.

Cornelis, was proposed by the President, as a a large, very handsome, waxen looking pear, with flesh white as snow, and very sugary. Tree very vigorous and hardy. A pear for the million.

Triomph de Jodoigne, was recommended by Chambers, of N. J., but others thought it of questionable value.

Doyenne du Cornice, was proposed by Earl, of Mass., as an excellent, large, handsome, vigorous and productive pear; but most members had found it liable to be prematurely blown off.

Kingsessing, was commended by Houghton, of Penn., as remarkably large, fine and vigorous—a character endorsed by many speakers, some of whom, however, had found it liable to blow off or rot on the tree.

Pratt, was proposed by Carpenter, of N. Y., as a thrifty tree, with very beautiful fruit. It was generally commended by members from Mass., N. Y., and N. J.

Louise Bonne de Jersey, was spoken of by Bergen, of N. Y., and Houghton, of Penn., as not successful with them on the quince.

Shelden, was introduced by Barry, of N. Y., a in his opinion, one of the best of all pears. It was gene ally commended.

Sterling, was also proposed by Barry, as a promising market pear, but short-lived. No one considered it of a high quality.

Josephine de Malines, also proposed by Barry, was generally agreed to be indifferent in quality, till the trees acquire age, when it is likely to prove one of the best of winter pears.

Beurre Coit, was recommended by Elliott, of Ohio, and Downing, of N. Y., as a very rich, prolific and promising pear. Little known as yet.

Bergen Pear, at the request of the introducer, Bergen, of N. Y., was referred to the Committee on New Fruits.

Woodbridge's Seckel, Woodbridge No. 2, shown by Lyon, of Michigan, two years since, was stated by him to have received, from the originator, the name of Woodbridge's Seckel.

Fulton, introduced by Carpenter, of N. Y., was conceded to be a very fine fruit and the tree thrifty, and an early and abundant bearer.

Lenawee, was mentioned by Lyon, of Mich., as having been cultivated for some years in Southern Michigan.

Howell, was commended by Barry, of N. Y., and others, as a valuable market pear, an immense grower and bearer, and the fruit does not rot at the core, and keeps much longer than the Flemish Beauty.

Jaminette, was recommended by Ellwanger, of N. Y., as a fine pear when the tree had acquired age—others had found the fruit subject to crack.

Vicar of Winkfield, adduced by Barry, of N. Y., as an illustration of his belief that pears often fail to ripen properly because poorly grown or imperfectly matured.

Lawrence, was also quoted, as a further illustration, and while on this subject, the President submitted the following remarks:

"That I think a remark capable of universal application. I have been appealed to, time and time again, and inquired of why I had once said, 'If I could have but one pear, I would choose the Vicar of Winkfield.' It was a well considered remark. When well grown, the Vicar of Winkfield is of the best. At one of the meetings of the N. Y. Agricultural Club, the question came up—What are the best six varieties of Pear? and the Club agreed on the Bartlett, Louise Bonne de Jersey, Urbaniste, Beurre d' Anjou, Vicar of Winkfield and Meriam. But the Vicar of Winkfield must be well grown—good, fine, full, ruddy specimens; and the man who is not satisfied with such fruit, should go without."

Oswego Beurre was introduced by Smith, of N. Y., but seems to be unsuccessful in some localities.

Miriam, was inquired after by Parsons, of N. Y., and Weld, of Mass., who characterized it as a very thrifty, handsome tree, bearing in clusters. A fine market variety.

Beurre Hardy, was stated by the President to be much larger than the Miriam, does not keep as well, but the quality very fine.

McLaughlin, was characterized by Carpenter, of N. Y., as a very fine and thrifty winter variety.

The discussion on Pears ended here.

T. T. Lyon.

Plymouth, June, 1863.

THE PEACH TREE BORER.

A correspondent of the Horticulturist furnishes the following interesting article on the borer. It should be read and carefully stored up in the mind for it seems to contain a valuable remedy for the destruction of this pest. We suggest that the trunk of the tree be plastered two feet high; for borers often enter above a good remedy when applied only a few inches above the surface. Their favorite point of attack, however, is at or near the surface, and when routed there, they generally beat a retreat:

Having successfully fought this depredator during twelve years past, I take pleasure in putting the facts before your readers The time most desirable to operate on the borer being *early* spring, renders it now opportune to describe the mode, which is as follows, viz:

With a garden trowel, old dull knife, or other convenient tool, dig a shallow circular trench, about three inches wide, and deep as the borer works, close around the naked crown of your tree. Fill this trench with small pieces of quick (fresh burned, unslacked) lime. Pour boiling hot water on the lime, enough to slake it hastily, and immediately cover over the lime with earth about an inch deep, to retain the heat. Soon after, pour against the tree, at the crown, enough boiling water to make the lime into a plastic paste, and proceed to paste this hot lime around the crown as high up as the borer is wont to attack the tree, and your job is done for twelve months, if done very early in spring.

The heat of boiling water poured on the trunk of a good-sized tree, just at the surface of the cold earth, is insufficient to kill all the borers and nits, unless in great volume, or the tree be wrapped in some suitable heavy retaining application, like a wool blanket, and water kept flowing some time. And though it should destroy all grubs and nits, it affords no security after the temperature has returned to the natural standard; but the caustic properties of lime repel the depositors of nits, as well as destroy all beneath it, and prevent the ravages of these pests from spring to spring, though not longer, as the rains and atmosphere influences gradually render lime inert. A pint of good lime and a quart of hot water are sufficient to preserve a tree for a year.

Where lime is not attainable, and good hard wood ashes are to be had, I presume they would be found efficient, if aided by some heat-retaining application, and water used more freely to keep up the heat until it has time to strike into the albumen. Quite adhesive earth or clay may make an adhesive paste with wood ashes, and the ashes would doubtless repel the borer family as long as retained in contact with the bark of the tree. A peck of unleached ashes would not be out of place, annually, around the crown of a peach tree of considerable size, as that tree consumes potash largely in its wood, fruit, and foliage, and so exhausts the alkalies in the thin, sandy soils, that but one orchard can flourish on the same soil, while the most extravagant growth of wood and yield of fruit is seen to be perpetual on soil abounding in very alkaline earth. Growing in soil largely composed of fuller's earth, on the banks of York River, Va., at Bigler's Mills, I measured the trunk of a peach tree which measured thirty-eight inches in circumference at two feet above the earth, from which the yield in good peaches is twenty-five to fifty bushels annually. The spray of this tree was forty-nine feet across, in the spring of 1860, and the branches were sound throughout. I am strongly impressed that a supply of potash equal to the demand of the peach tree would banish "yellows," and with the borer kept at bay, we would again find the peach tree as hardy, prolific, and thrifty as of yore.

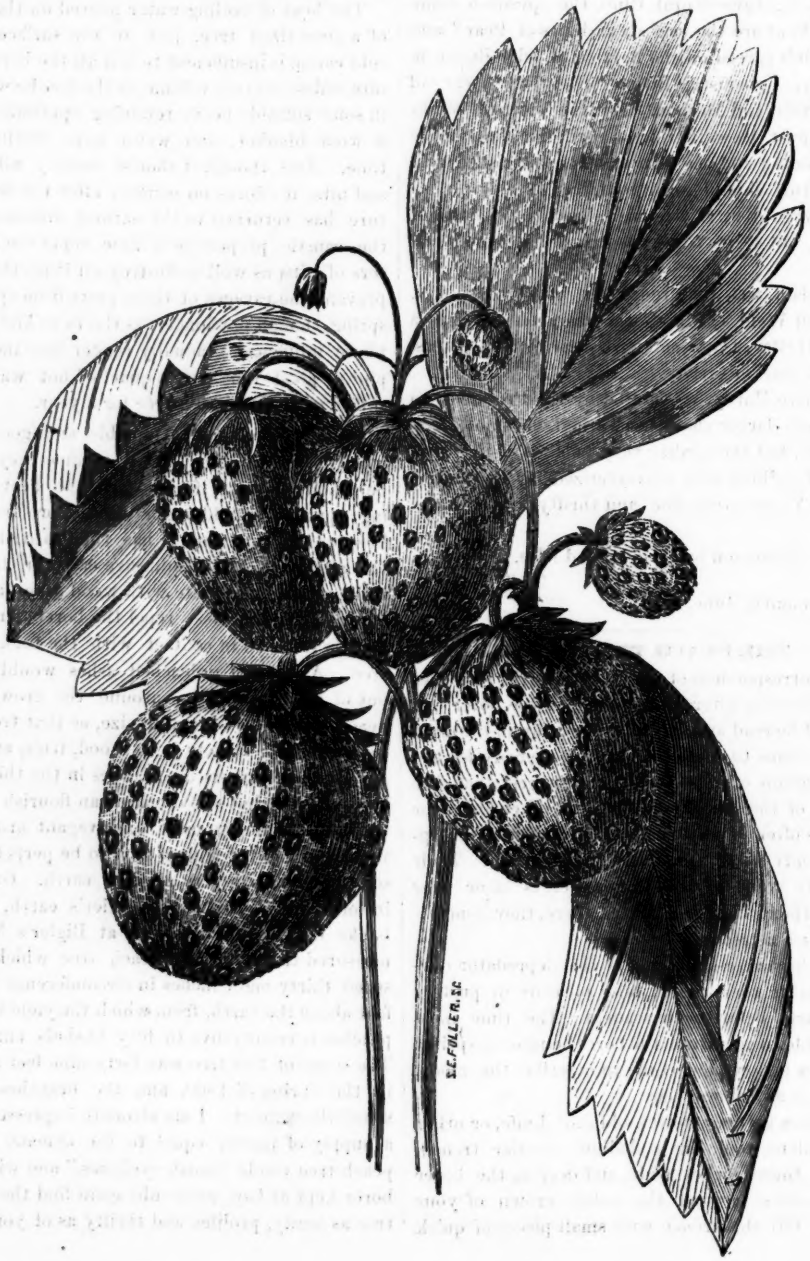
THE NEW YORK TRIBUNE PREMIUM STRAWBERRIES.

We give this month the full illustrations of the *New York Tribune* Premium Strawberries, with the facts relating thereto from that paper itself:

"The cuts accompanying represent "THE TRIBUNE prize Strawberries"—so named because we purchased them, at a very large price, to bestow *exclusively* upon the subscribers of either edition of THE TRIBUNE for 1863, intending to send one of each kind to every subscriber who expresses a wish to that effect at the time of subscribing. This will be equal to a prize of $1 50 to each subscriber, as that is the price charged by nurserymen for similar plants. Indeed, neither of these prize strawberries could be obtained at any price whatever, as we have secured every plant that can be produced in the year 1863, exclusively, as prizes to our subscribers. We have incurred the large outlay necessary for this purpose, because we have an earnest desire to see the propagation of improved fruit greatly extended, and because we believe that every one who receives these plants and grows the fruit will hold THE TRIBUNE in kindly remembrance for enabling him to enjoy such a good gift of kind Providence, and will thereafter feel an increased desire to improve all the list of fruits. It is thus that health and happiness will be increased.

As these plants have all to be grown from the few plants that we bought of Mr. Fuller in the Autumn of 1862, he will not be able to send them to subscribers until after the 1st of September, 1863, when they will be carefully packed in oiled silk or paper, and forwarded, through the mail, at our expense, or by express at expense of the receiver. The three plants will be sent to each person who sends to us a year's subscription for either the Daily, Semi-Weekly, or Weekly TRIBUNE, indicating at the time of subscribing that they desire the Strawberries, and the distribution will be made in the order the subscribers' names and requests for Strawberries are received.

THE "MONITOR."



Single subscribers will receive their plants by mail, done up in oiled silk, or other suitable oiled substance.

To Clubs, plants will be sent in packages, to correspond with the number of names in the Club, and where the number will warrant it, they will be sent by express, packed in boxes.

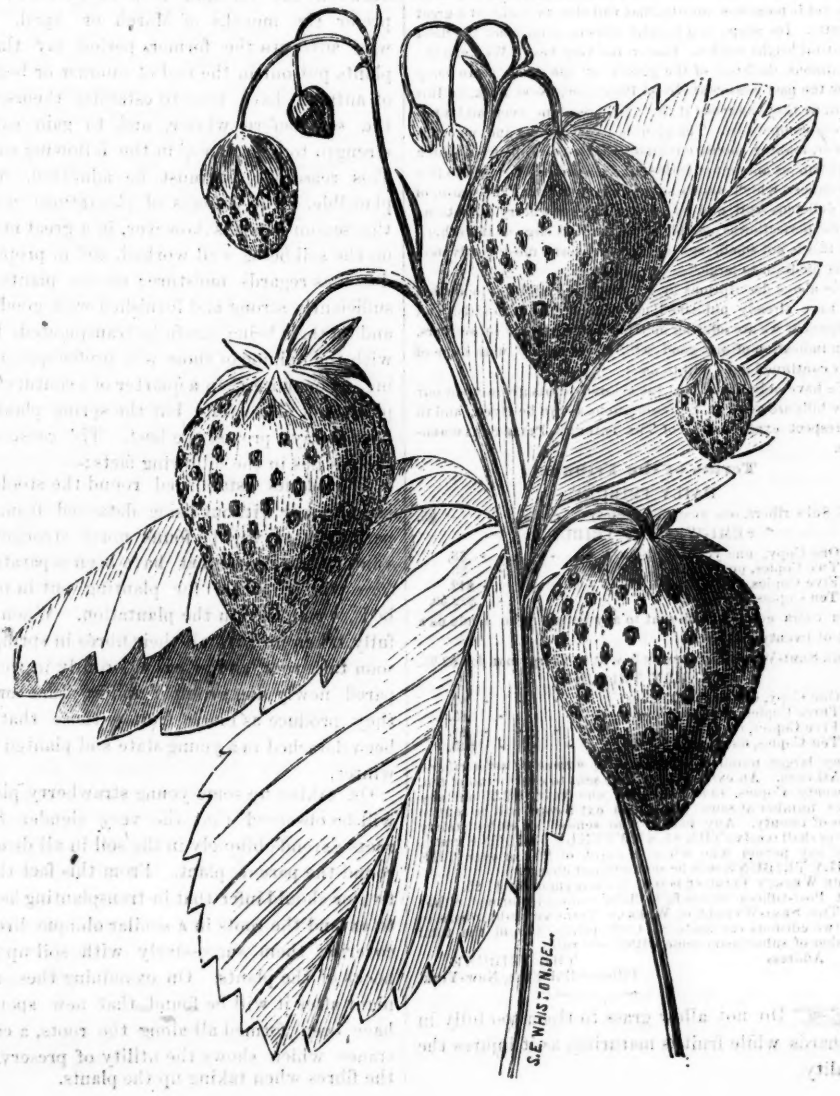
New subscribers who desire strawberry plants should say so at the time they send their money, as we do not intend to send any to those who will not appreciate them. They are too valuable to be wasted. There are parties who would gladly contract for the exclusive right to all these plants, at 25 cents apiece, and there are many subscribers who would not, as soon as they see and taste the fruit, part with their prize for a $5 "green back."

How these New Strawberries were Produced.

The following statement is made by Andrew S. Fuller, horticulturist, Brooklyn, the originator of these strawberries.—He says:

"It is now between seven and eight years since I commenced sowing seeds of the strawberry for the purpose of producing new and improved varieties. I have always selected seeds from the largest and best that could be obtained, and the results were that I produced some few good varieties each season; yet they were not such as I was willing should go out as my seedlings. Every season I selected the seed with more care then I did the previous one, and found that I made constant improvement. I therefore determined that I would put forth extra exertions and see if a few extra choice varieties could not be produced. In 1859 I obtained the best varieties known, and by fertilizing the flowers one with another, I expected to produce strawberries combining greater excellence than heretofore known. In this I was not disappointed. I produced that year many thousands of seedling plants, and the fruit of many was really excellent, so much so that I was urged not to throw the plants away; but as excellence, and not variety, was my object, I destroyed all the most promising. I determined from the first that no plant should go out as a seedling of mine unless it combined greater excellence than any other strawberry known. From the selection of that year a competent Committee from the Farmers' Club of the American Institute, who had the matter three years in charge, made a selection of three sorts, ripening early, medium and late, and these I preserved as the final result of my seven years laborious experiments to procure improvement in strawberries from seeds. These I intended to dispose of in the ordinary way of a nurseryman's business, and should have done so but for the desire of THE TRIBUNE Association to make a gratuitous distribution of these truly excellent strawberries to their subscribers. I have therefore contracted to furnish them exclusively for that purpose. Not one of them can be bought of me at any price. If I had kept them for sale to individuals he price would have been 50 cents each or $5 a dozen."

THE "BROOKLYN SCARLET."



Names and Descriptions of the Prize Strawberries.

"The earliest ripening one was named COL. ELLSWORTH, in honor of the martyr who lost his life when Alexandria, Va., was first occupied by the Union army during the present war. It is a very large variety, of a crimson color, conical in shape and, having slight depressions, running from calyx to point, resembling the sutures on the peach, with a long neck, and the calyx parts readily from the berry, quality good; flesh firm.—Although the largest of the three, it is also the earliest, ripening at the same time as the Jenny Lind and Early Scarlet, and is very productive. The original plant, eighteen months from the time the seeds were sown, produced over 200 perfect berries, averaging from 1 inch to 1¼ inches in diameter.

"The next ripening is called the MONITOR. It is very large, of a dark bright scarlet color, approaching a crimson in the sun. Berry very solid and firm, of fine quality; plants very vigorous and productive. This sort will become a great market fruit, the color and shape being very attractive.

"The third, from its color and origin, is called the BROOKLYN SCARLET. Although this variety is inferior in size to the other two, yet it possesses merits that will always make it a great favorite. Its shape is a regular oblong cone, color the most beautiful bright scarlet. Flavor. the very best. We have the unanimous decision of the judges at the great strawberry show the past season at No. 41 Park row, New York, on this point, as they awarded it the first premium over all its numerous competitors. The plant is a very strong and vigorous grower, making monstrous stools the first season, from which an enormous amount of fruit stalks are produced Add to this its lateness, which assists so much in prolonging the season of this delicious fruit, and we have in this strawberry something as near perfection as possible, though not as large as the others. Yet this is not small, and among the sorts most cultivated, ranks medium to large."

The above descriptions by Mr. Fuller, in addition to all that we have already published, must be sufficient to satisfy all minds that we are offering no trifling prize to our subscribers, as an indication of our good will, and certainly with hope of their continued good will to us.

We have only to add that the colored prints given upon our show bills are as exact representations as can be given, and in no respect exaggerations of THE TRIBUNE PRIZE STRAWBERRIES.

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Address THE TRIBUNE,
Tribune Buildings, New-York.

☞ Do not allow grass to ripen too fully in orchards while fruit is maturing, as it injures the quality.

When and How should Strawberries be Planted.

On reading the title of this article, many experienced cultivators will doubtless say, "These are old questions which have long ago been debated and settled; therefore it is unnecessary to bring them up again." Others, and the greater number, may berhaps find in them certain points to which they may again profitably advert. I am inclined to think so; for having examined plantations of strawberries in different localities, I have come to the conclusion, that they have not generally been made with the precautions necessary to insure the desired result.

Some advise strawberries to be planted in the end of August. or in September, or better still, between the 1st and 15th of October; others prefer the months of March or April. Those who advocate the former period say that the plants put out in the end of summer or beginning of autumn have time to establish themselves in the soil before winter, and to gain sufficient strength to bear a crop in the following summer. This reasoning, it must be admitted, appears plausible. The success of plantations made at this season depends however, in a great measure, on the soil being well worked, and in proper condition as regards moisture; on the plants bei g sufficiently strong and furnished with good roots, and on their being carefully transplanted. I agree with the opinion of those who prefer spring planting. For more than a quarter of a century I have planted at all seasons, but the spring plantations have always proved the best. The cause of this success lies in the following facts:—

The plants established round the stools since last summer without being detached from their parent plant, will be found much stronger after winter than those that have been separated before winter, either for planting out in nursing beds, or at once in the plantation. When carefully taken up with all their fibres in spring they soon take root, and grow vigorously in well prepared newly dug ground; and in June or July they produce as much fruit as those that have been detached in a young state and planted before winter.

On taking up some young strawberry plants it will be observed that the very slender fibrous roots extend obliquely in the soil in all directions round the parent plant. From this fact the cultivator should infer that in transplanting he ought to extend the roots in a similar oblique direction, covering them successively with soil up to the necks of the plants. On examining these a fortnight after it will be found that new spongioles have been formed all along the roots, a circumstance which shows the utility of preserving all the fibres when taking up the plants.

Every cultivator must be aware that strawberries push roots more than a foot into the ground, provided it is deep, and rendered loose and permeable by manures suitable to the nature of the soil. They extend obliquely more than a foot and a half in all directions round the plant. If they are planted so closely that the roots entangle each other in struggling to obtain nourishment, it may be easily conceived that the produce must in consequence be diminished, not only in the first, but also in the second, and more especially in the third year after planting. By some this is ascribed to the plants being exhausted; but this is an error arising from mistaking the effect for the cause. It would be more reasonable to say that the elements of nutrition in the soil become insufficient for the demand. These observations show the necessity of planting widely apart, so as to prevent the roots of strawberries and other plants from coming in contact with each other, if we wish to obtain fine produce.

Those who plant exclusively with a view to crop, and to obtain the fruit in full perfection, cut off the runners in spring and summer as they are produced. The fewer runners a variety of strawberry throws out, the easier a plantation is kept in order. A variety naturally disposed to make few runners is prefered to those that produc many, if in other respects it possesses equal merit, a property which is becoming more and more appreciated by connoisseurs. Such being the case, I was rather astonished to observe that Mr. Radclyffe makes the limited production of runners a fault as regards La Constante; and this is a reproach thrown on this strawberry which is even not well founded; for if planted in good soil, neither too dry, nor too stiff, cold, and wet, it produces runners sufficiently well. A dozen young plants which were planted out in April, 1862, furnished by October 127 plants, which was at the rate of more than 1000 per cent. The circumstance of this variety not producing a superabundance of ru ners is considered one of its meritorious characters by the most intelligent cultivators.

What will Mr. Radclyffe say when he shall have cultivated two varieties to which I have given the names f Model and Bijou. This first name applies to the plant and its fruit; the second exclusively to the fruit, which is truly a Bijou in every respect. They are improved seedlings from La Constante, and produce runners in an infinitely more moderate degree.—(M. De Jonghe, *in Gard. Chron.*

Let every subscriber as soon as they receive this No. try and get the premium War Map, Triomph D'Gand Strawberries, or Delaware Grape.

PRUNING AND MANAGING THE PEACH TREE.

BY F. A. NAUTS.

The following useful information in regard the "Pruning and Managing the Peach Tree," is by a correspondent of the Working Farmer, who appears to fully understand successful Peach culture. It is worthy of the perusal of all who wish to better inform themselves in regard to this particular fruit.

Several particulars relative to the peach tree, establish important differences between its manner of growing and that of other fruit trees. To form a just idea of it let us see what would become of a peach tree budded and left to itself.—During the first two or three years it would push vigorous branches more or less diverging, of which the superior branches, to the exclusion of others, will be loaded with flowers and fruits, at the same time continuing to lengthen. If after the first crop we examine the parts of those branches that have borne fruit the preceding year, we will find neither twigs nor fruit buds; we will see that all the sap mounts towards the top of the branches, whilst the lower parts will be unfurnished for ever. In a branch of the peach tree, that part which *has borne fruit, will never bear any more*; it is the unvarying dominant law of its vegetation. At the end of a few years, it only shows us bouquets of green boughs as stripped and completely naked as broomsticks. It will grow in height, and the superior part only is covered with leaves and here and there a few fruits; the branches are entirely naked. Whence arises the principle, that all branches of a peach tree having borne fruits or flowers, must be suppressed; and to expect a succession of annual crops, the annual formation of fruit branches must be provoked.—Thence arises the necessity to oppose constantly the tendency of the peach tree to dart its sap towards its superior branches, to the detriment of the others; and to force it to distribute it equally in all its parts, so as to produce fruit-branches to replace those which each year become unproductive after having borne one crop.

Another peculiarity of the peach tree is this; the wood or fruit buds existing on a branch develope themselves at the time the tree begins to vegetate, the buds which appear after vegetation, cannot be depended upon; the existence of these latent buds, so precious for other fruit trees, is incompatible with the mode of vegetation of the peach. It is to the wood-buds of the fruit branch that we must look for the means to reproduce it the next year; there is no other resource. The natural trees obtained from pits have alone the faculty to renew the fruit branches by latent buds which pierce the trunk or large branches; but

this chance does not exist for the budded peach trees.

Let us remark that while the sap in most other trees obtains in the midst of the season a time of rest, which enables us to distinguish the sap of August from that of spring, with the peach tree the sap does not suspend for an instant its activity, from the first day of spring until the beginning of winter. The whole system of the pruning of the peach tree reposes on this peculiarity, which points out the necessity of preserving the equilibrium of the sap of all parts of the tree.

The immediate effect of cutting off a branch of a peach tree, is to make the sap flow to the nearest bud (Fig. 1.) at *a*, and successively to all the buds placed below, so that if we want to keep them all, they will grow unequally in proportion to the distance from the pruning; the first surpassing in vigor all the others, as in Fig. 2.

Fig. 1. Fig. 2.

The more haste is made to prune after the first movements of the sap, the more vigorously the buds developed by pruning will vegetate; from this arises the *general rule:* to prune early all delicate or weak trees, to obtain good shoots; and retard the pruning of strong trees to hinder them from growing too fast. A weak tree pruned late does not furnish sufficient replacing branches; a strong tree pruned too early, gives too many wood-buds, and if those buds flourish the next year, the sap being turned aside to the advantage of the young wood, they will not hold their fruit. The well conditioned bud to which a branch has been pruned, may surpass in vigor that same branch in the course of the year; the weak bud gives in the same circumstances a weaker branch than that on which it is developed.

These invariable effects of pruning, on the buds of the peach tree, give a certain means to regulate the distribution of the sap, and to render equal two unequal branches, so as to keep up the equilibrium. A wood-branch lessened to a wood-bud, does not grow any more, because it does not form any wood bud to continue it; a wood-branch charged with a large number of buds, lessened to a wood-bud, permits the sap to take its course towards the part of the tree placed below; this pruning is very useful to hinder the sap from inclining to the upper part of the peach tree too abundantly.

Prune long on strong shoots, and short on weak shoots. A too short pruning gives rise to suckers; a too long pruning sets all to fruit, stops the tree and exhausts it. Whenever by an injudicious pruning the parts are provoked, which should be suppressed, we hurt the developement and health of the peach tree; it is evident that the force used to form those useless parts, has been nothing but a clear loss.

Let us suppose the branch *a* (Fig. 3) pruned

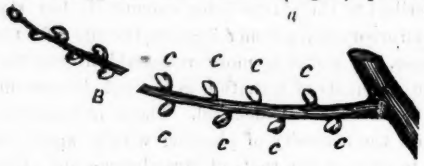

Fig. 3.

at *b;* when after the first movement of t e sap, all the buds *c c c c* are open, they cannot subsist without confusion. All the sap used to make them into twigs will be lost sap, which could have been utilized for the growth of the tree and the production of the fruit. This would have taken place as shown in Fig. 4, on the last bud *a*, the

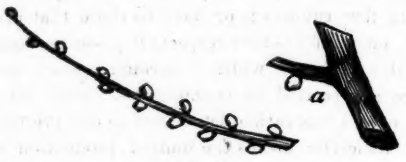

Fig. 4.

only one necessary to give rise to the replacing branch.

Among the very numerous buds of the peach tree with which the branches are covered at the time of pruning, it is the inferior bud that is placed near the heel of each fruit branch. If this branch receives too long a pruning, in order to obtain an abundant crop, the inferior bud will not develope itself; there will be nothing to replace it next year, and it will leave a void difficult to fill. Certain varieties of peach trees only give their fruit at the upper extremity of the fruit-branch, which we are forced to prune long or obtain no fruit. In this case we suppress below the fruit-buds *a a a* (Fig. 5) all the wood-

Fig. 5.

buds *b b b*, except the bud *c* which is reserved to replace the fruit branch. Fig. 6 shows the branch

Fig. 6.

after the pruning, and the suppression of the wood buds.

In order to have a tree well furnished, durable and productive, we must never prune the fruit branches too long nor the wood branches too short, but direct all our attention to the replacing regularly the fruit-branches and the regular growth of wood-branches. The young twigs must grow and enlarge at the base of the fruit-branches, in order to be able, without stripping the tree, to properly prune those branches. This is the essential principle of pruning the fruit branches of the peach tree. A misunderstanding greediness ruins the tree by a too long pruning of the fruit branches, and the less fruit branches are left on a branch, the more force we give to the bud from which is to rise the twig to replace it. By this means sap enough is supplied to the heel or wood-bud, to enable it to become a good replacing branch, thus keeping the tree in a productive and thrifty condition. A fruit branch must always be pruned to a wood-bud as in Fig. 6, sometimes accompanied by a a fruit-bud, so that the flower is preceded by a bud that developes in advance of the fruit; this bud attracts the sap to the first; otherwise the fruiting branch pruned to a fruit-bud, and left without a wood-bud, dries up to the first wood-bud below the pruning, as that bud attracts to itself the sap and retains i for its use.

Twigs. Under this name are designated all the scions of the peach tree issued from a wood-bud, between the spring and autumn. All the twigs will be fruit-buds the following year, Fig. 7.

Fig. 7.

Suckers are strong wood-branches that attract more than their share of the sap, hunger the peach tree and cause its decay, when they are suffered to grow without being checked—Fig. 8.

Fig. 8.

Fruit-Branches. All the twigs of the year, even the anticipated twigs, when we let them grow become fruit-branches; all the members of a thrifty tree must be fruit branches—Fig. 9.

Fig. 9.

Replacing Branches. It is in the nature of the fruit-branch of the peach tree, as we have said, to bear fruit only once in the same place, so that if we let it lengthen itself, all the inferior part would be unfurnished with flowers and leaves. The replacing branches obviate this; they are managed so as to renew the fruit-branches every 18 or 20 months. Generally every fruit-branch should be suppressed after having given its crop. We designate often under the name of *courses*, the branches on which grow every year the fruit-branches and those designated to replace them.

Bouquets. These the most precious of the fruit productions of the peach tree. They are little branches on which usually come the finest fruits of each tree, are always few in number and are distinguished by a terminal eye, which, instead of giving rise to a replacing twig, forms only a rosette of leaves—Fig. 10.

Fig. 10.

BEST FRUITS.

We find the following in regard to what are considered the best fruits by the "Fruit Growers Society of Western New York," at its Summer session, held June 24th, as named:

FOUR MOST DESIRABLE CURRANTS.

Which are the four most desirable Currants for general cultivation?

Charles Downing—White Grape, White Dutch, Red Dutch, May's Victoria, Versaillaise.

P. Barry—White Grape, Victoria, Cherry, Versaillaise.

Elisha Moody—Cherry, White Grape, Victoria, Fertile de Angers.

H. E. Hooker—Red Dutch, Victoria, White Grape, Cherry.

E. W. Sylvester—Cherry, White Grape, Champaigne, Black Naples.

J. Frost—Cherry, La Versaillaise, White Grape, Black Naples.

RAVAGES OF THE SAW-FLY.

What is the best method of preserving the Currant plants from the ravages of the saw-fly or currant worm.

Mr. Barry said the most effectual remedy was air-slaked lime, put on every day until the worms are destroyed.

Dr. Sylvester had succeeded in killing them with whale oil soap.

H. E. Hooker used soap suds made of soft soap, strong. Had used lime and seen the worms eat the leaves when both them and the leaves were covered with lime.

B. Fish had used lime successfully.

THREE BEST CHERRIES.

Which are the three best Cherries for market?

Mr. Barry said the demand in the market here was always the best for black cherries. He would, therefore, recommend Black Eagle, Monstreuse de Mezel, and Elkhorn. For a white cherry, Napoleon Bigarreau.

W. P. Townsend recommended for the Lockport market, Gov. Wood, Elkhorn and Black Tartarian.

Benjamin Fish recommended Gov. Wood, Black Tartarian and Black Eagle. The Elkhorn was apt to rot on the tree.

H E. Hooker—Most of the cherries bought in the Rochester market were for transportation, and the firm fleshed varieties were, therefore, most sought. Yellow Spanish, Napoleon Bigarreau and Monstreuse de Mezel he considered the best.

Mr. Townsend said last season he lost the entire crop of Napoleons by rotting, and the year before it was nearly as bad.

Mr. Barry said the Black Tartarian tree had proved tender of late years.

CULTIVATION OF THE RASPBERRY.

What is the best method of cultivating the Raspberry?

Mr. Downing said the common practice on the Hudson was to plant in hills four feet apart each way. Four or five canes are reserved for each hill, tied to a stake four feet high. When bearing is over the stakes are pulled up and the old canes are cut away. The new canes are laid down and covered with a little earth every fall.

H. N. Langworthy did not use stakes, but tied the canes together, which seem to give sufficient support. The Society, after agreeing to meet in Rochester in the autumn, adjourned.

BLACKBERRY—MOST DESIRABLE VARIETIES.

Which are the most desirable varieties of the Blackberry for general cultivation?

H. N. Langworthy—The Lawton is not hardy, and is very troublesome to gather on account of the thorns. Had grown the Dorchester for several years, but it had never produced half a crop. Had grown Dr. Miner's blackberries and thought well of them.

H. E. Hooker was called upon for a description of his Seedling Blackberry, but declined to respond, stating that there were others there who were acquainted with it. The President then called upon J. Vick, who said he had visited the grounds of Mr. Miner for the purpose of examining this fruit, and was much pleased with what he saw. This blackberry is of the running or Dewberry species, and roots at the points like the Black Cap Raspberry. The fruit, like most of the species, is sweet and of fine flavor. The Doctor had two varieties, one some ten days earlier than the other. The earliest one is the best flavored, but the berries are sometimes imperfect. This is a common fault with the Dewberry. The other variety gave uniformly perfect berries as far as he had observed. The shoots that are to produce the fruit next season come from the ground like the raspberry, and are allowed to run at will until the following spring. A good portion of them will be found rooted, giving new plants. A stake some five feet long is driven into the ground near each plant, and they are set about six feet apart. The running branches are then collected together and twisted around the stake four or five times, tied with a stout cord to the top of the stake, and all above cut off. As soon as growth commences a great number of lateral shoots are thrown out, entirely concealing the stake and branches. These bear the fruit, the weight of which causes them to droop, forming a very pretty pyramid. The amount of fruit produced is very great—often three or four quarts to each plant. In fact the whole plant looks like a pyramid of fruit. It is easily gathered, as there is no thorns to interfere with the operation, the fruit standing out free from leaves or branches.

The President made a statement somewhat similar to the preceding. He had noted the imperfection of many of the berries, and though the flavor was excellent, this berry, like all of the blackberry family, left a kind of woody taste in the mouth.

Garden Work for July.

This is a very important month for transplanting Cabbage, Cardoons, Celery, Endive, Leek plants, &c., for full autumn crops. Prepare trenches for the Celery plants beforehand, in order that they may be ready to catch the rain. Leeks may be transplanted in dry weather by first steeping the roots in mud, and Cabbage plants too, if there be the least damp in the ground when it is fresh turned over. If Cardoons or Celery be planted in dry wether, the trenches must be shaded with boards. As grub worms are generally numerous in this month; plant with caution, try a few Cabbage plants first, and if none are eaten off, you may venture to proceed, and by the middle of this month, the danger is generally over.

If Beets and Carrots have failed, the seeds may produce good roots by autumn, if planted early in this month; plant Beans; Cabbage seed may be sown now for Collards; plant Cucumber seed for picklers; sow Endive seed, and transplant the former sowing; if Peas be planted now, they should be soaked in soft water five or six hours previous; Potatoes may be planted early in this month; and Pumpkins if not done last month.—Sow black Spanish Radish seed in drills; sow Turnip-rooted Cabbage seed, or Navet; this is a good season for Ruta Baga, or Russian Turnip; and the common kinds of Turnip seed may be sown towards the end of this month. Attend to plantations of Hops; whatever herbs may be required for winter use, should be cut off and dried as they come into flower, Burnet, Chervil, Fennel, Mint, Parsley, Sweet Marjoram, Tarragon, Thyme, Winter and Summer Savory, may all be cut this month.

The flower garden should be kept weeded and watered, and the seeds gathered as they ripen; apply neat rods to the tall-growing and running kinds of plants; such hardy bulbs as may require to be removed, may be taken up as the tops wither, after which, the offsets may be parted off, and both these and the parent bulbs dried, for planting in autumn,; roll gravel walks and attend to the lawns, edgings, &c. Look over your fruit trees and grape vines; stop the shoots before the bunches of fruit, and train up such shoots as are reserved for bearing next year. Nip off curled, and dead leaves, and destroy insects.

Grapes ripen best when shaded by the leaves.

THE "COL. ELLSWORTH."

The Earliest and Largest of the "New York Tribune" Premium Strawberries.

[*Printed in Colors by* BOND & SNYDER, *"Michigan Farmer" Office, Detroit.*]

THE MICHIGAN FARMER.

DETROIT, JULY, 1863.

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TO POSTMASTERS.

We often receive returned papers, with merely the *name* of the subscriber upon them, and not the *town*, in such cases it is difficult to find them, as we are obliged to go over 200 pages of names. Will they please to add the name of the Post Office.

"Postmasters are responsible for the subscription of a newspaper or magazine, as long as they allow it to be received at their office, after it is uncalled for, or refused by the person to whom it is directed. The Postmaster General requires that a written note shall be sent to every publisher, that his paper or works lie dead in that office."

OUR ILLUMINATED STRAWBERRY.

We give our readers something this month to make their "mouths water," in the shape of an almost living strawberry. It represents the earliest and largest of the *New York Tribune Premium Strawberries*. Since this fine illustration has laid in our office, nearly all the persons who have seen it have expressed their admiration of the natural looks of the fruit, and having prepared a few more than enough for the subscribers of the *Farmer* for our own use, they have been fairly taken possession by visitors in spite of our remonstrances, and some of them now hang in neat frames in Detroit, others have determined to possess the original, and forwarded their subscription for the *Tribune*. The rich green foliage and beautiful crimson luscious-looking fruit, is like natures own and pleaseth the eye. We have prepared this at a great deal of trouble and expense, but have the satisfaction of knowing that the *Farmer* is the only agricultural journal in the United States that has given "*The Col. Ellsworth*" in its natural colors. We have done this in order to give more prominence to the fact that the proprietors of the *N. Y. Tribune* are unsparing in their efforts for the general introduction of these new and delicious varieties of this fruit—no money can *buy* the plants. "*The Monitor*" is the medium, and "*The Brooklyn Scarlet*" the latest. They are the three *best* seedlings produced by Mr. S. A. Fuller, a thorough and persevering horticulturist of Brooklyn, N. Y., after *seven years trial*—having been so pronounced by one of the most competent body of fruit growers in the United States.

THE STATE FAIR FOR 1863.

The Fifteenth Annual Fair of the *Michigan State Agricultural Society* will be held on the

23d, 24th, 25th and 26th OF SEPTEMBER,

AT KALAMAZOO.

The preparations to render the exhibition one which will be creditable to the Western part of the State, and highly honorable to the citizens of Kalamazoo, and that liberality for which one of the most beautiful places is somewhat distinguished, are on a scale that will render the Fair an event that will be worthy of a visit.

The National Park Association have tendered the State Agricultural Society the use of their grounds and all their fixtures for the exhibition, and to render even these fixtures of still more value, the County Society have postponed, for this season their annual exhibition; but the members have concluded hereafter, to hold their county fair on the National Park Grounds, are now exerting themselves to erect in connection with the State Agricultural Society, a very handsame and ornamental Floral Hall, which will secure all works of art, and of ornamental design from casualty by the weather. The building is now in the hands of one of the most reliable building firms of Kalamazoo, and will be pushed to completion immediately. This building will be 100 feet in length and fifty feet in width, with a wing in the rear 30x50 feet, which is designed to be used as a Hall of Fine Arts, for the display of pictures, and which is to be lighted from the roof, with a special design for that purpose. This building will stand inside the track on a slight rising ground in front of the President's office.

The lumber for the sheds for cattle, and the pens for sheep and swine is on hand, and the workmen are engaged in putting them up. These sheds will extend along the north fence of the park from the Grand Stand to the eastward.

On the west of the Grand Stand are two long buildings which were erected for military purposes and which will be prepared for the exhibition of manufactures and industrial products of the State, of which we think there will be a large exhibition. For the machinery there is also another large hall situated on the grounds in front of the stables, which will be filled with shafting and pulleys for the running of machinery.

The large tent of the Society will be used for the display of Fruit, which promises to be one of the grandest features of the exhibition. The whole range of fruits have done remarkably well this season throughout the western part of the State, and there seems to be a design to make this Fair an opportunity to display the capacity of this portion of Michigan to outrival in beauty and quality apples, pears, peaches and other fruits

superior to that produced in any other part of the United States, and we challenge the famous apple growers of the Genesee valley, and the pear growers of Massachusetts and the rest of New England, to come and compete with our orchardists, and see what we can do in this line here at the West.

The stables which accommodate 200 horses have all been put in the finest trim, and the large prizes offered by the Society, as well as the great interest that is developed by the demand for good horses, of size and action, promises to lend quite an interest to this department of the exhibition. There are also, as we learn, designs under consideration to offer a number of citizens premiums independent of the premiums of the Society, for the finest display of blood stock and trotting stock during one or two days of the Fair.

The committee who have charge of the trial of implements, are determined that nothing shall be wanting on their part to make the trial of implements and farming machinery, and also the trial of plows and Plowing Match as useful and more instructive than this department proved to be last season, when all who participated in what is considered as one of the finest displays of the kind that had ever been seen; and all went home fully satisfied that they had learned something more than they could have done by staying at home.

The show of Cattle and Sheep will probably be the largest and finest ever seen in Michigan.—The principal breeders from the eastern part of the State who have taken the premium for years are getting ready to exhibit their stock to their western brethren, and they are anxious to compare their herds with those of western Michigan. We expect also, that there will be a goodly show of very choice stock from the western counties, where they have been for some years introducing numbers of fine animals from Indiana and Kentucky.

During the past year the Sheep interest has been largely developed, and the premiums have been largely increased. Seperate premiums are offered for the Spanish, French, Saxon and Silesian tribes of the important Merino race, and not only that, but special premiums of considerable value are offered for single animals of the purest blood, and whose unblemished descent must be proved by satisfactory papers.

The National Association, when we were there on the 4th inst., were getting the grounds and track in the very finest order; and should the weather prove propitious, it may be expected that one of the grandest gatherings will be seen that has ever been in the West.

We noted during our visit, that the enterprising proprietors of the "*Kalamazoo House*" had built a large addition to their already commodious hotel, this with the other hotels promises to give accommodations of a superior order to visitors. We shall in our next number speak more fully of the programme, and the order of proceedings for this annual festival.

For the Michigan Farmer.

THE STATE AGRICULTURAL COLLEGE.

BY HENRY W. DEARE.

Letter No. 1.

MICHIGAN, ranks as the first State which has established and maintained a State Agricultural College, which is wholly a State institution; it was a great step in experimental agriculture, and one which has cost the State a considerable sum of money, without rendering as yet, any perceptible results from the outlay; altho' there is now great reason to hope that the present prospects, arising from the munificence of Congress and the legislation of the recent session of the State Legislature, if properly applied, will eventually enable the College to equal, if not excel, any similar institution in the United States; yielding to the farming interests of Michigan fruits worthy and abundant, such as will cause the friends of the institution and all true farmers to view it with pride.

The State Convention which assembled in June 1850, to revise the Constitution, authorized the Legislature to appropriate twenty-three sections of the unappropriated salt spring lands to provide or the establishment of an agricultural school; providing at the same time, that the Legislature might if it saw fit, make it a branch of the University, and place it under the supervision of the Regents. Thus a fund was originated with which to commence this experiment, arising from the proceeds of the twenty-two sections of salt spring lands, which realized the sum of $56,320. It was evidently the intention of the framers of the Constitution to leave it fully optional with the Legislature to apply the proceeds of these salt lands to the formation of an agricultural school either independent of, or attached to the University, as they saw fit, or as it might appear to them to best serve the agricultural interests of the State. At the session of the Legislature of 1855, nearly five years after the adoption of the Constitution authorizing the establishment of an agricultural school, the attention of legislators was called to the matter. The flourishing state of agricultural pursuits, the high price of grain and produce at that time tended to awaken the minds of agriculturists, and thro' them the Legislature to the question, whether the time had not arrived to commence the farmer's college? This ques-

tion the Legislature answered by enacting a law, "For the establishment of a State Agricultural School."

The locality fixed upon by the Legislature for the site was "by law" to be within ten miles of the city of Lansing; to be a farm of not less than 500 acres, the price of which was limited not to exceed fifteen dollars per acre.

At that date nearly the the entire environs of the Capital within the prescribed distance was a vast wilderness. The President and Executive Committee of the State Agricultural Society were charged with the selection of grounds for the College and farm, and out of this circumference, or radius of ten miles the site must be chosen—there were no partly cleared farms to be purchased, there were none suitable to be had within the prescribed space; the total population of the township of Lansing ten years previous was only 88, and the number of families within the circle of ten miles, including the villages of Lansing and Dewitt scarcely exceeded four hundred. No choice was left the committee but to purchase a site and locate the college in the wilderness. If it was the best policy to locate the farm and college at or near Lansing, then the very best location for it has been secured. The President and Executive Committee of the State Agricultural Society, with the approbation of the State Board of Education purchased of Col. Burr, a fine tract of land situated three miles the Capital, on the Howell and Lansing Plank Road, and having the waters of the Cedar River, (a branch of the Grand) running through it.

Under the supervision of the State Board of Education, a board composed of three persons one of whom is elected by the people at each biennial election, and to whom the Legislature saw fit to give control of the institution; spacious brick edifices were built, land was cleared, a place for a garden prepared, and things were duly arranged for commencing active operations. One great mistake was made in constructing the buildings, they are built entirely of brick, the moisture of the sandy soil, in which the fonndations are laid is already causing them to decay, it is surprising that stone was not employed, for that material abounds in the neighborhood; it may be, however, alleged that economy was the reason that brick was used where stone should have been substituted, because the brick used in the building was made upon the grounds; be this as it may, it is seriously to be regretted that it is so, as the durability of the present buildings are thereby greatly impaired.

On the 13th day of May, 1857, a little more than six years ago, the Agricultural School of Michigan (as it was then termed) went into operation; for several reasons, some of which may be accounted for, it has not, as yet, produced any great results, or at least results such as those who give such like experiments a casual glance would be led to expect. But when we reflect that its location in a forest made it necessary that every field, nay, even the sites for the buildings had to be chopped, logged and cleared, was not that alone sufficient to retard its progress and utility? Even if money, and means, and labor, had run freely as water at the beck and call of the managers;—every field had to be cleared and fenced, suitable buildings had to be built for stock and grain, ditches had to be dug; the river had to be bridged, a garden had to be laid out, and all this had to be accomplished under difficulties which few have not visited the institution and inquired into the minutiæ of its workings can well conceive;—but happily, there are great hopes now of the College becoming one of the grandest institutions in America. It is emerging from its difficulties, and under the control of the State Board of Agriculture, and the management of the present Faculty, composed of F. C. Abbott, A. M., President, Professor of History and English Literature; Manly Miles, M. D., Professor of Zoology and Animal Physiology; J. S. Tibbitts, Superintendent of the Farm; R. C. Kedzie, A. M., M. D., Professor of Agricultural Chemistry; Albert H. Prentiss, B. S., Instructor in Botany and Horticulture; Oscar Clute, B. S., Instructor in Mathematics; C. A. Keneston, A. B., Instructor of Preparatory Class. The future of the Agricultural College is brilliant, with the resources now at command, and with a favorable support from the agricultural public, who must not be over anxious for great results yet awhile, the College will eventually benefit the farming interests of Michigan abundantly for the outlay which has been made. Let it not be understood, that any apology is offered for any misuse of the liberal amounts voted by preceding Legislatures, or for any mismanagement of the affairs of the College such as have been urged previous to this time, that all things have not gone as they should or might have gone, it is not the purpose now to discuss. It may be that wiser men could have been selected to inaugurate this experiment; if so, and it was not done, there is no remedy but to endeavor to profit by experience of past delinquencies if any there were, and taking hold anew with new prospects and renewed vigor, continue on, patiently improving, and untiringly demonstrating that "perseverance overcometh great difficulties."

In six years time two hundred and fifty acres have been cleared, no more new land will be chopped, cleared and fenced at present, but the whole attention of students will be directed to the cul

tivation of that portion already prepared; it is only now, after six years of toil and backwoods hardships that the purposes of an agricultural school are beginning to be realized, and the Faculty begin to have an opportunity to fully teach the appliance of science to agriculture in a useful and practical manner—the object being to illustrate to the farm student, how to raise the most productive crop at the least possible cost; for such a purpose the College farm has been so far and is yet in a measure unfit, but it is fast approaching that stage of fitness, and every year will add to its capacity, and every "course of studies" will tend more and more to develope its mission. The wheat crop of the College farm for 1862 was 648 bushels raised on 24 acres, or 27 bushels per acre, and this where the familiar stump of the majestic oak, maple and elm stood not many years since in their original grandeur.

From 30 acres of grass upwards of 50 tons of hay was cut; every crop is carefully weighed and measured, and an exact account kept of the cost of production and the amount realized from the sale or use thereof, and as soon as practicable whenever any practical results are attained they will be hereafter made public, so that all who desire may profit by the knowledge acquired by experiment and practical illustration upon the College farm.

As to stock raising no attention has been paid to this remunerative branch of Agricultural pursuit, from the fact that until the past year no suitable building could be erected for their shelter, in fact it was a hard matter to say if the place resembled a farming establishment or not, fields and garden there were but no farm buildings not even such as can be found on some of our best appointed farms. During the past year a spacious barn has been erected and a large barn yard has been enclosed, and as soon as circumstances will permit, a small quantity of Thorough Bred Stock will be obtained and placed upon the farm to illustrate that Branch of Agriculture known as Stock Breeding.

All this time while the farm was being subdued from its natural state to one prepatory to a course of experimental farming, a system of experiments has been maturing, of which the public will hear something in due time.

The Vegetable garden begins to assume proportions of sufficient magnitude, considerable attention has been paid to this branch of study in connection with Horticulture, flowers, and botanical plants; much however remains to be done, to make this part of the institution what it should be, although perhaps more progress has already been made here than in the farm crops consequent upon the comparative less space of ground cultivated for those objects, the want of a Green house is greatly felt, and the building of one on a small scale is in contemplation, and altogether the College prospers, the Legislature at its late session appropriated $10,000 per annum for this and the ensuing years, they also provided for the selection of the 240,000 acres of land appropriated to Michigan for Agricultural Colleges, and endowed the Agricultural College, with the same or the proceeds thereof, then may we not look forward to the time when the farmers of Michigan will be able to boast of a College devoted to their interests, which shall rival in utility and perhaps in numbers and importance, the already great and glorious University.

Nothing but the firm purpose the untiring zeal, and the self sacrificing efforts of some of the earlier students of the College, has enabled it to struggle through its infancy together with the prudence and courage of the faculty; in the first years of its existence the students had to endure toil such as ordinary students never dreams of and to their perseverance is due in a great measure the existence of, and perhaps the success which is predicted for this Institution.

CANADA THISTLES.

MARSHALL, July, 1863.

EDS. FARMER,—The time is at hand when it becomes the duty of the Overseer or Commissioners of Highways to see that the provisions of the Act of the Legislature "To prevent the spreading of Canada Thistles in the State of Michigan," are carried out within their respective districts. It is to be hoped that no apathy of the farmers of Michigan in a matter of such vital importance to our agricultural interests will cause this law to become a dead letter, in any part of the State. The law is a good one, with ample provisions to effect the object designed. Let its penalties be rigidly enforced whenever and wherever the owners or occupiers of lands neglect or refuse to meet its requirements, and the first important step will have been taken in eradicating this pest of the farm which has almost ruined many farmers in some of the older States.

WM. R. SCHUYLER.

HAMTRAMCK, July 10th, 1863.

MESSRS. EDITORS, Dear Sir:—As I was passing along one of our roads yesterday my attention was called to a fine crop of that pestilential weed known as the Canada thistle just about coming into bloom, standing twenty inches high, and covering the whole of extent of a non-resident lot of an acre and-a-half. This reminded me the Legislature last winter passed a law "to prevent the spreading of Canada thistles in the State of Michigan," now in order accomplish this it becomes

necessary to destroy the crop that is annually allowed to ripen and propagate by sending its seed forth upon the winds for each succeeding year's growth.

The Act mentioned, and which may be found on page 183 of the Session Laws of 1863; makes it every man's business to cut down the thistles on the roads passing through their farms, and in their fields often enough each year to prevent their going to seed, each owner or occupier of land who shall suffer any Canada thistle to ripen on his farm or in the road in front of his farm becomes liable to a fine of $10 for each offence. It further makes it the duty of the Overseers and Commissioners of Highways to see that the law is faithfully carried out, and they are subject to severe penalties for neglect or refusal to do so after due notice to owners or occupiers of land they may proceed to cut down all Canada thistles on the farms in their districts and towns, without incurring the risk of trespass, the law points out a way by which they are paid for the expense and trouble which is sure and easy (see sections 3 & 4 of the bill.) In cases where thistles grow upon non-resident lands the method of proceeding is simpler yet.

Any persons knowingly selling any grass or other seed among which there is any seed of the Canada thistle are liable to a fine of $20. The Act was published in the April number of the *Michigan Farmer*, but as this is the proper time to see to putting the law in force, the thistles being almost ready to bloom, I have taken the liberty to call farmers attention to the matter through your paper, without everybody who feels interested in abolishing this nuisance takes hold Canada thistles will not be eradicated nor their spread retarded. Your truly, HENRY W. DEARE.

Detroit has taken the first step in the enforcement of this wholesome law. On the 7th inst., a resolution was introduced in the Common Council and supported by Alderman BOND, (one of the publishers of the *Michigan Farmer*) who urged the necessity of immediate action for carrying out the Act of the last Legislature, and if possible to exterminate this vile weed within the city limits, and thus show the agricultural communities that Detroit was not indifferent to the welfare of the farmers of Michigan—said resolution was unanimously adopted instructing the Street Commissioners to see to the rigid enforcement of the law on the subject of Canada Thistles. We trust every other city, town and village corporation in Michigan will likewise do its duty, and we shall then have a general extermination of this *"cursed thistle."* Let every agriculturist interest himself with the proper authorities in his immediate locality for their destruction, and it will in a great measure be accomplished.

IMPORTANCE OF A HOME AGRICULTURAL JOURNAL.

We would recommend that our readers peruse the following from one of the most successful, intelligent and practical farmers in this State, who fully understands the importance of agricultural literature—and especially of *a home journal* devoted to the developement of the great productive interests of Michigan:

IONIA, Mich., May, 1863.

MESSRS. EDITORS OF MICH. FARMER:

Gentlemen—Enclosed please find my subscription up to August. I have been acquainted with your paper over twelve years, and return the present and former proprietors and editors many thanks for the instructive articles that have from time to time appeared in their columns. I have generally had from 2 to 4 agricultural papers yearly, and I attribute a portion of success as a farmer to the practical exchange of ideas and the many useful lessons I have always found them to contain. The interests of farmers are certainly looking up, and it is a disgrace to this prosperous State that we do *have* ONE *Agricultural paper well sustained.*

I think I am safe when I say, the farmers of this State never had a more worthy champion of their rights than the editor of the *Michigan Farmer*. Perhaps some eastern papers are better canvassed for, the reason is they pay a higher premium for subscribers and they are published in a more appreciative community. But if our farmers knew their *true interests*, they would FIRST SUSTAIN THEIR *HOME PAPER!*

The day is passed for the man who reads not, and cares not for the improvements that are constantly being made in the business he pretends to follow—he must go to the wall, work though he may. The man who brings mind and muscle into the field—who lays out his seasons operations based upon the study and experiences of former years, and follows them out to the letter will far distance in the race his neighbor who calls *"Book Farming* a humbug."

Yours truly, GEORGE GIBBS.

A Heavy Fleece.

We learn from the Romeo Argus that Mr. Wm. W. Thorington, of the township of Washington, Macomb co., in this State, has sheared *twenty-five pounds ten ounces* of wool from a French Merino buck. If such is the fact, it is the largest single fleece of which we have any account of in the new clip in Michigan. This may be considered an extraordinary fleece in the Northwest, and we think it somewhat difficult for our sister States to bring anything superior to take pre-eminence over the Peninsular in wool-raising.

This compares well with the fleece-weight of

the celebrated French Merino buck "*Crystal Palace*," for which $1500 was paid. He took the first prize at the World's Fair in Paris in 1856, and numerous prizes in the State of New York. This buck recently died in California at the age of 12 years; he weighed 300 and his clip ran from 24 to 32½ lbs. for several seasons. His skin has been preserved and stuffed as a model for all sheep to look at and imitate.

The Nursery Business in the City of Monroe.

Perhaps, says the Monroe Commercial, that few of our citizens are aware how extensive an enterprise is springing up, or has already sprung up, in our midst. We refer to the culture and sale of fruit and ornamental trees, as conducted by our townsman, I. E. INGELFRITZ, Esq. The Monroe nurseries have for many years been widely known, and although as large as any within the State, it is only within the past few years that they have grown to such extensive proportions. Mr. Ilgenfritz nursery and garden on the north side of the river which covers nearly thirty acres, is only a small portion of the ground he occupies. In the western part of the town, and right within the city limits, fronting upon Front street, and stretching back to Plum Creek, fully a mile, is a farm of eighty acres, fifty acres of which has within the past two years been planted to fruit trees, and now an extensive forest of them can be seen, which it is perfectly delightful to behold. A year ago last spring 380,000 apple tree alone were planted upon this farm, and now the most of them stand as high as a man's head, exhibiting a growth most luxuriant and beautiful. Imagine if you please a forest of young trees, set in rows three feet apart, perfectly straight and regular, and stretching in an unbroken mass for three-quarters of a mile. The high degree of cultivation in which the Nursery is kept is also worthy of remark. The soil is a perfect garden—rich, mellow, and friable—and scarcely a weed or blade of grass can be seen by traveling over the entire tract.

Besides the 380,000 apple trees that were planted a year ago last spring, 150,000 more were planted last spring, besides in the two seasons, about 100,000 other fruit and ornamental trees.—Another season Mr. Ilgenfritz will have nearly or quite 100 acres devoted to tree and shrub culture. And the value of this business to the City, as a means of giving employment to laborers, is of no mean consideration. Some twenty to twenty-five men find constant employment the season through, and during the season of packing and shipping, many more. And a difficulty is likely to be experienced, in getting help enough during the season of packing and shipping, to supply the demand for trees, which is largely increasing every year, and is so large that all the nurseries in the country cannot supply it.

The soil in and about Monroe is peculiarly adapted to the growth of fruit trees, and we see no reason why nurseries should not spring up here as large as the celebrated nurseries of Rochester.

What should be done when you have a light Grass Crop.

The following remarks of a correspondent of the N. H. Jour. of Agl,. is also applicable to some portions of Michigan at present, and our readers will do well to profit by his suggestions, as they are practical and easy if a farmer should fail with his hay, and necessity requires that he should provide more winter fodder. He says:

"Judging from the looks of the grass on my own farm, and on those of my neighbors, the hay crop must be light this season. If so, what can we do to supply its place? The weather must be most favorable, or many a barn will have unfilled hay-mows, unless an effort is made to fill them with an extra crop. How that can be done is the all-important question, at this time. The sooner this subject is looked into, the better. No farmer wishes to be obliged to force sales on his cattle.—No wool-grower is willing to throw his sheep into market, when the next year's crop of wool will more than pay for the sheep, if a forced sale is made. No farmer wishes to feel, when winter sets in, that he must sell stock or buy hay. Neither will a good farmer feel comfortable in the spring, to find himself short of hay. Now then, what can be done? But few farms that do not have more or less patches that produce but little grass and might be plowed and made to produce a good crop of corn. Now is the time to it. If these patches do not exist, there is a portion of common tillage that is to be broken for next year's crops. Let a compost be prepared by scrapings from the privy, the sink-spout and the hog-pen, unless other manure can be had with less trouble. Before the haying season presses hard, take off the grass and turn the turf bottom up, as nicely as possible. In fields reasonably clear of stone the double plow will be *the* plow to use. It will leave a surface of from two to four inches of light loose earth, the depth of which will depend upon the depth of plowing. [We should say that planting immediately after haying would give time to produce good, light corn stalks for fodder.]

A good harrow and a team to match, will soon prepare the ground for the seed. Furrow with a small plow, two feet apart. Put in a little manure—half as much as is usually put in for corn—the more the better, of course—mix well with the soil by using some kind of a mixer drawn by horse. Into this furrow strew the corn, from twelve to twenty kernels to the foot, and cover with the plow. One or two cultivatings is all that is needed after this. When well cured, no fodder is more greedily devoured, by both sheep and cattle, than this. One or two acres managed in this way, will make up for the deficiency in the hay crop of many farms in the State. This is no idle tale. Let him who has the energy take my advice and gladden his stock with full feed another winter, and make glad his own heart with fat cattle and fine sheep."

FLORICULTURE.

Destruction of Roses by Worms.

Many of our subscribers must have noticed the blight that has seemed to fall upon our choicest roses in Detroit and vicinity. Leaves seem to wither away as if scorched and dried by fire. This is caused by a small green worm, that has been preying upon the rose leaves. They are very numerous and in some instances not a whole leaf is allowed to remain, yet the perfect skeleton of every one. This worm appears to us to be of the same species that infest the grape leaves; and probably the reason that these have so generally escaped this season, is that the leaf of the rose offers a more attractive repast. Wild and hardy roses have escaped in our own garden, where the finest varieties have been attacked and destroyed. We think that the best remedy for this pest is a strong solution of salt and water thoroughly applied two or three times a week. This was an experiment of our own, and we found that it destroyed these worms by thousands when administered. Also, strong soft soap suds kills them we find. We trust that the readers of the *Michigan Farmer*, who are troubled with them on their rose bushes will try these remedies. Do not make the salt and water strong enough to injure the foliage. We also see, that this worm is working destruction among the gardens of the Eastern States.—W. S. B.

Flower-Garden for July.

In many gardens says the *Gardener's Monthly*, there will be roses of poor and inferior kinds, or of good ones that the owner may desire superseded by better ones. This may readily be accomplished by budding or inoculating, and now and next month is the season to operate.

In almost all works on budding it is recommended to take the wood out of the bud to be inserted. This is necessary in the English climate, but unnecessary here and never followed by practiced hands.

Amateurs may have some rare or choice shrub they may desire to increase. They may now be propagated by layers. This is done by taking a strong and vigorous shoot of the present season's growth, slitting the shoot a few inches from its base, and burying it a few inches under the soil, or into a pot of soil provided for the purpose. Any thing can be propagated by layers; and it is an excellent mode of raising rare things that can be but with difficulty increased by any other.

Hollyhocks will be coming into bloom at this season. They have now become so much improved as to be one of the most popular flowers for the summer decoration of the flower garden. If the kinds are kept carefully separate, any particular variety will re-produce itself from seed. They may be more certainly kept pure by cutting off the flower stem;—each bud will make a plant. The seed should be sown as soon as ripe in a light rich soil, in the open air. If retained till late in the season they will not probably, flower the next year.

The raising of new varieties of florists' flowers is an interesting occupation to the amateur. The process of hybridization, applies to all plants as well as to grapes; but good improved kinds of things may be obtained from chance seedlings. The finest and doubiest of Roses, Petunias, Dahlias, Carnation, etc., should be selected, and as soon as the petals fade, they should be carefully removed, or they will cause the delicate organs of reproduction to decay before maturity. A flower may be so very double as not to bear seed all, as is the case of the Gillyflower or Stock; but if the pistil remains perfect, as it usually does, seed will ensue.

Dahlia seed may be preserved till the spring. Antirrhinum, Rose, Carnation, and such hardy perennials, should be sown soon after ripening.

The Chrysanthemums should be examined, and if the shoots thrown up are thickly together, some of them should be rooted out. If the flower shoots are layered into four or six inch pots, they make very pretty dwarf plants, that are well adapted to neatly ornament a room a small conservatory, where larger plants would be objectionable.

the coolest position of the flower garden assigned to them. They usually suffer much from the Red Spider, which make their leaves drop. The various remedies we have so often recommended should be applied. Frequent heavy syringings are particularly grateful to the Fuchsia.

The summer pruning of hedges and ornamental trees and shrubs, that require to be brought into particular shape, will be sedulously attended to through the season, according to former directions.

Plants set against walls and piazzas frequently suffer from want of water at this season, when even ground near them is quite wet. Draw away the soil around each plant so as to form a basin; fill in with a bucket full of water, allowing it time to soak gradually away, and when the surface has dried a little draw in loosely the soil over it, and it will do without water for some weeks. This applies to all plants wanting water through the season. If water is merely poured on the surface, it is made more compact by the weight of water, and the harder the soil becomes, the easier it dries; and the result is, the more water you give the more is wanted.

The time is coming when transplanted trees of the past fall and spring will suffer more than during any part of the season. If they show a vigorous growth of young wood, no danger need be apprehended, as it indicates that the roots are active, and can supply all the moisture the foliage calls for; but if no growth has been made, no roots have been formed, and the leaves are living for the most part on the sap in the wood and bark, and hot, drying weather will tell with injurous effect on such trees. This is generally first shown by the peeling off of the bark on the south-western side of the tree,—the most drying aspect; and where such exhaustion appears propable, much relief may be afforded by the cutting back some of the branches, syringing with water occasionally, shading the trees where practicable, or wrapping the trunk in hay-bands, or shading the south-west with boughs or boards.

Propagation by Cuttings.

DISCUSSION AT MONROE, MICH. HORT. SOCIETY.

PREPARATION OF THE SOIL.—Sift leaf mould and sand separately, and mix according to the plant to be struck. Geraniums strike readily in three parts of leaf mould mixed with one part pure sand. Fuschias require similar soil, also roses. Helitrope, Verbena, and such like plants do best in sand. Plants that are difficult to strike are put into pulverized charcoal, and others in brick dust.

TIME OF STRIKING.—Rose cuttings generally, are most sure to grow, immediately after the flowering is over for the month. Geraniums grow at any season, also fuschias, verbenas, and other similar growing plants. Difficult woody plants require to have the new wood from which the cuttings are taken, well ripened to ensure growth. Pink pipings may be cut at any season. Generally speaking all plants grow more readily just after blooming, and the best cuttings are taken from those shoots that have borne blooms. Usually it is well to leave a small part of the past year's growth on the cutting. Fuschias grow best from young shoots, also heliatropes, and verbenas. Oleanders need to be rooted in water previous to planting in the earth; the roots are tender, and should be handled with care. Cactus require drying for a number of days before planting; those leaves that have flower buds, are said to bloom early, and also to continue flowering annually.

Herbaceous plants root sooner when the stems are placed in water for a day. Equality of temperature, and moisture is important to insure success. For this purpose glasses are placed over delicate cuttings; some prefer clear, other green glass. Cuttings generally require partial shading, until roots form. Bottom heat assists materially in the formation of the roots; the proper temperature, 50 degs. The soil should be firmly pressed to the lowest point of the shoot, that the air may not pernetrate and dry the embryo roots. With bottom heat, plants easy to strike may be potted within two weeks. Cuttings like the dew and moon light, therefore the coverings of those placed in hot beds should be removed, if the weather is moderate at sunset. The horizontal branches nearest the ground are much more apt to form roots than the upright ones

Put Flowers on your Table.

Set flowers on your table—a whole nosegay if you can get it, or but two or three, or a single flower; a rose, a pink—nay, a daisy. Bring a few daisies and butter-cups from your last field walk, and keep them alive in a little water; aye, preserve but a branch of clover, or a handful of flowering grass—one of the most elegant, as well as cheapest, of nature's productions—and you have something on your table that reminds you of the beauties of God's creation, and gives you a link with the poets and sages that have done it most honor. Put but a rose, or a lily, or a violet, on your table, and you and Lord Bacon have a custom in common; for that great and wise man was in the habit of having flowers in season upon his table—morning, we believe, noon, and night; that is to say, at all his meals, for dinner, in his time, was taken at noon. And why should he not have flowers at all his meals, seeing that they were growing all day? Now here is a fashion that shall last you forever, if you please—never changing with silks, and velvets, and silver forks, nor dependent upon caprice and change to give them importance and a sensation. The fashion of the garments of heaven and earth endures forever, and you may adorn your tables with specimens of their drapery—with flowers out of the fields, and golden beams out of the blue ether. Flowers on a morning table are specially suitable to the time. They look like the happy wakening of the creation; they bring the perfumes of the breath of nature into your room, they seem the representatives and embodiments of the very smiles of your home, the graces of its good-morrow—proofs that some intellectual beauty is in ourselves, or those about us; some home Aurora (if we are so lucky as to have such a companion), helping to strew our life with sweets, or in ourselves some masculine mildness not unworthy to possess such a companion, or unlikely to gain her.

Plants consecrated to Heathen Deities.

The ancients delighted to idolize and to symbolize objects. They placed gods goddesses in the cups of flowers; and we may trace in our sympathies toward certain plants the still lingering remains of heathen mythology. The fig tree was in the early ages dedicated to Saturn, the oak to Jupiter, the ebony to Neptune, laurel to Apollo, thyme to Mercury, the vine to Bacchus, the poplar to Hercules, reeds to Pan, the lotus to Harpocrates, the God of Silence; poppies to Morpheus, whence the active principle poppies, or opium, is now called morphia; the lily was dedicated to Juno, the olive to Minerva, the myrtle to Venus, corn to Ceres, garland of flowers and nosegays to Flora, orchards and fruit trees to Pomona, the white rose to the nymphs, sea-weed to the Nereid-, separate trees and trunks of trees to the Hamadryad and Dryads, the lliac to Hebe, the Crocus or saffron to Sickness, the laurel and palm to glory and courage. The violet, the forget-me not, and many other flowers have still their symbols.—*Septemus Piesse.*

To obtain Early Flowers.

The most eligible way to obtain early flowers, is to prepare a slight hot-bed for the tender kinds, and either to plunge the pots therein up to their brims, or to sow seed in the earth in shallow drills, not more than a quarter of an inch deep. It may be necessary here to observe, that in favorable seasons, flower seed in general will come up in from one to three weeks after it is sown, except the seed of Cypress vine, which should be first partially scalded in warm water, and then sown. If some of the hardy annuals be sown in September, they will grow large enough to survive the winter by a slight covering of straw or litter; and if plants thus raised, be transplanted early in the spring, they will produce very early flowers.

TEARS generally tremble in our eyes when we are happy and glisten like pearls, or dew-drops, on the flower cup; but when we first realize any overwhelming and unlooked-for happiness, we gaze round with a smile of bewildered ecstasy, and no tears tremble in our eyes. The extremes of joy and sorrow are too great, too deep for tears.

Dust Persian Insect Powder on rose-bushes infested with insects.

THE PIC-NIC. (See Illustration.)

July and August are the months for Pic-Nics. The schools, churches, societies families, and all creation in general must have a pic-nic. Some go by railroad, some by steamboat, in fact all sorts of conveyances are called into requisition to proceed to the appointed spot, which is generally some cool shaded grove on an island or river bank—for humanity when it leaves the crowded streets must have an exuberant fill of the beauties of nature—hill, valley, water and shade must all be combined to render the place a fit one for a Pic-nic, as swings, boats, bathing and climbing all pertain to it, and without these it cannot be perfect.

Our picture represents a happy "family Pic-nic." How much absurdity, oddity, discomfort and enjoyment are comprised in the idea of a pic-nic.—The old rather suffer it, the young enjoy it. A couple suspiciously confidential and absorbed in their own conversation betray by their neglect of the viands spread out on the oldest of tables their devotionate affections, with the two names "Mary and Charles" cut upon the tree shows their "great expectations." In the back ground is another couple with the young gentleman well seated and pointing out the beauties of the distant scenery to his fair partner, who seems to listen with pleasant thoughts. The younger are in mischief of course, and the greater the youth the greater the mischief. The fishing-line in the hands of our little friend, exulting in the release which his feet enjoy from the imprisonment of shoes, bids fair to be only hereafter a memento to its owner of the day's pic-nic. The gourmand ready to do up the salad is battling for the necessary chicken with the fair thief; young scapegrace on the boat, and in mischief, excites the due alarm of mamma, while a quiet reproof awaits little miss who in desiring to do the honors of the table, threatens to pour all Duncan's best on the ground. In the water to keep cool sets a basket of the "pure juice of the grape" probably "sparkling Catawba" wine.—Pater-familias is actively busy, and his good wife sedate and sober, as though she condemned the levity of the whole, and like her pious son consoles herself for the vanities of life by an eye to solid comfort. Long live Pic-nics!

Uncle Sam had a neighbor who was in the habit of working on Sunday, but after a while he joined the church. One day he met the minister to whose church he belonged. "Well, Uncle Sam," said he, "do you see any difference in Mr. P. since he joined the church?" "Oh, yes," said Uncle Sam, "a great difference. Before when he went out to mend his fences on Sunday, he carried his axe on his shoulder, but now he carries it under his overcoat."

A lazy boy will grow up to be a lazy man.

ARMY
CHARLES
WAR

HOUSEHOLD WORDS.

IN THE MARKET.

We're in the market—Mary and I—
Are there no bachelors wanting to buy?
None who have courage enough to propose?
None who have wisdom enough to disclose
That they've shirts without buttons, and pants without straps
Have vests with fringed edges and coats with torn flaps;
And their last winter's hose are minus of toes,
And their uncovered heels are like to get froze,
For lack of such bodies as Mary and I
To attend to the wants and woes we espy?

We're no coquettes—are Mary and I—
So free loving dandies need not apply—
Beauty's admirers nor Wit's devotees
Need not approach, for we never shall please;
But we know of a circle whose names are untold
In Fame's shining temples or mansions of gold,
Whose lives without spot, blemish or blot,
Have won them the honor the world giveth not—
For such, worthy bachelors, Mary and I
Still wait in the market—will ye not buy?

Unsullied virtue, Mary and I
Only can offer to those who apply—
Hearts warm and loving we're striven to blend
With hands ever ready in need to befriend;
And our lips seldom gossip, our feet rarely roam
Beyond the charmed precincts of childhood's sweet home;
And to wash, brew or bake, small splutter we make,
For "Quiet and Thrift" is the motto we take—
Lonely old bachelors, will ye not buy?

We're in the market—Mary and I—
Shall we be left in the market to die?
Swiftly youth's fleeting years over us go,
Dimmed the rays from Hope's beacon light glow;
And our hearts, like the May, will forget to be gay,
If Love's fragrant blossoms no'er dawn on our way—
Such the position Mary and I
Offer to bachelors—pray, will you buy?

Don't Snub the Children.

Many a child has been wilted into silence, and frightened out of success, simply by being snubbed. It is very easy to snub a child, equally easy to encourage the child, and lead, him to the accomplishment of something useful.

Children have strong sympathies, warm and tender hearts. They soon form attachments to those who are placed in authority over them, or else the regard them with a feeling very nearly allied to hatred. What child ever loved a cross, snappish teacher? What child every hated a teacher or parent who showed a loving interest in the child's success?

Very easy indeed is it to discourage the little student. He has spent an hour or two at home over a lesson which seems dull to him. Father, mother, and the big brothers, not being well versed in the subject give him no assistance. He goes to school, hoping that he will make a very good recitation. He is not quite up to the mark. "Dunce," "booby," "blockhead," says the unwise teacher. The poor little fellow's heart sinks all the way to his ankles. What use is there of his trying? He is a booby. Why should he learn anything? Has not his teacher, who certainly knows him, told him he is a dunce? Is not his head made of mahogany? He despairs of ever succeeding, sits down in a fit of sulky despondency, and makes a positive failure in his lesson for the next day. Had the teacher encouraged him a little, kindly pointed out to him his deficiency, and showed him how to set his faults right, he might have come the next day with a merry heart, a cheerful face, and a well-learned lesson.

Another little disciple comes bouncing home from school in high glee. He has done well in his lessons. He has a good time with the other boys, coasting or skating. Who can sympathize with him, and enjoy his enjoyments so well as his parents? He rushes into their presence. "There now, you noisy calf!" "Wipe your feet this minute, sir." "How dare you?" An extinguisher is put upon him. Whether his sins be great or small, he feels the condemnation great, and sulkily sneaks off to his room by himself, or goes to the kitchen corner, behind the stove, where he soothes his ruffled feelings by stroking the cat, assured that there is some sympathy between them, even if human beings do snarl at him and discourage him.—*School Visitor.*

About Dress.

"The first appeal is to the eye," says an old writer—a text from which we might preach a profitable sermon on the subject of dress. We have plenty of flippant denunciations of fine clothes, and an abundance of grave animadversions on the sin and folly of extravagance in apparel, but scarcely an essay can be found touching the æsthetics and *morale* of dress. And yet it is a study worthy to be ranked among the "fine arts," not less than architecture, painting, and sculpture. "Dress your boy like a blackguard," said a venerable man of our acquaintance, "and he will behave like one. Dress him like a gentleman, and he will at least try to sustain the character." It was an observation of Lavater, the great physiognomist, that persons habitually attentive to dress display the same regularity in domestic affairs.

"Young women," says he, "who neglect their toilet, and manifest little concern about their apparel, indicate in this very particular, a disregard of order, a mind but little adapted to the details of housekeeping, a deficiency of taste, and of the qualities which inspire love," "The girl of eighteen, who desires not to please, will be a slut and a shrew at twenty-five!" It is a great mistake in women to suppose that they may safely throw off all care about dress with their celibacy, as if wives had less need than mistresses of elegant and tasteful apparel. An old writer says with hearty em-

phasis: "It is one of the moral duties of every married woman always to appear well dressed in the presence of her husband. Expensive attire is by no means essential. The simplest muslin gown may evince the woman's taste as truly as the most costly robe of *moire antique*. But how rare a quality is good taste! In the mere matter of propriety and harmony of colors, there is material for a treatise (which has yet to be written) by some one thoroughly proficient in the æsthetics of dress. Even the simplest laws, though pretty generally understood, are constantly neglected.—Look at the stunning glare of red which comes from all the bonnets at the present moment—whatever may be the complexions beneath them! An English poem of the last century contains some sensible precepts respecting colors. To brunettes (dark complexions) the poet recommends gay colors—"rose," "orange," or even "scarlet." Here is a couplet:

"The lass whose skin is like the hazel known,
With brighter colors should o'ercome her own."

To rosy-cheeked girls he permits "blue" and "the color of the sea." Cautioning pale women against "vernal hues," he says, quaintly and poetically:

"Ladies grown pale with sickness or despair
The sable's mournful dye should choose to wear;
So the pale moon still shines with purest light,
Clad in the dusky mantle of the night."

Peasant Wedding in Germany.

The German papers describe a wedding which recently was celebrated in a village at the gates of Berlin, which is inhabited chiefly by prosperous peasants; the village is Tempelhof. The wedding feast lasted two days, and *during these forty-eight hours the bride and her maids changed attire five times.* There were one hundred and twenty persons present at the wedding, and as they brought German appetites with them, sixty chickens, two hundred and twenty pounds of carp, three hundred and thirty pounds of cake, twelve large joints of roast veal, and three hundred bottles of wine disappeared in the course of forty-eight hours.—The bride cannot refuse an invitation to dance, let her fatigue be however great. Nevertheless, to damp the ardor of dancers, each man who has the honor of being her partner must pay a fixed sum of money to the musicians, and by the sliding scale of this levy, bachelors, by reason of their unhallowed estate, are mulcted in a sum of money three times greater than husbands pay. You may imagine the vigor of the bride's legs when I tell you they danced eighty dollars into the musician's pockets. The feast ended, she was escorted home by the whole one hundred and twenty guests, bearing torches, and the carriage in which she sat, had a body-guard of fourteen young men on horseback.

Choosing Husbands.

A lady writer says:—"I have been married many years; the match was considered a good one, suitable in every respect—age, position and fortune. Every one said I had made a good choice. I loved my husband when I married him, because by unwearied assiduity, he had succeeded in gaining my affections; but had choice been my privilege, I certainly should not have chosen him. As I looked at him in his easy chair, sleeping before the fire, a huge dog at his feet a pipe peeping out of the many pockets of his shooting-coat, I cannot but think how different he is from what I would have chosen. My first *penchant* was for a clergyman; he was a flatterer, and cared but little for me, though I have not forgotten the pang of his desertion. My next was a lawyer, a young man of immense talent, smooth, insinuating manners; but he too, after walking, talking, dancing and flirting, he left me. Either of these would have been my "choice," but my present husband chose me, and, therefore, I married him. And this I cannot help thinking must be the way with half the married women of my acquaintance."

Loose Bowels.

There are three kinds of loose bowels, technically called "diarrhea," or a "flowing thro' of water, bile, or blood. If it is water, it is diarrhea proper; if it is bile, it is bilious diarrhea; if it is blood, it is dysentery. Simple diarrhea is a thin, light-colored discharge from the bowels, occurring five, ten, or twenty times in twenty-four hours; if let alone it becomes Asiatic cholera in certain states of the atmosphere. Its great characteristic is the extraordinary debilitating effect which speedily pervades the whole body; the patient feels, when he sits down, as if it would be a happiness just to be allowed to remain there. Absolute quietude is an elysium to him. Instinct calls for the most perfect rest possible, and thus points out the most certain and appropriate of all modes of cure, which is absolute and continuous rest on a bed, in a cool, clean, well-aired room, until the passages assume the consistency of mason's mortar and not oftener than twice in twenty-four hours. In health the bowels are incessantly moving, not unlike worms in a carrion; hence the ancient designated it as the "vermicular action," *vermis* meaning a worm. If there is not activity enough, we have constipation, or torpid, sleepy action; when this action is excessive, it is diarrhea. Every step a man takes has a tendency to set the bowels in motion; hence one of the most certain and frequent and efficient cures of constipation, when the bowels act but once in two or three days or more, is to be moving about on the feet almost all the time. If then motion

tends to increase the activity of the bowels, when that activity is too great, instinct, alike with reason, dictates as perfect quietude as possible. If the symptoms do not abate by simply resting on a bed, a greater quietude of the vermicular motion is compelled by simply binding a strip of woolen flannel, about fourteen inches wide, tightly around the abdomen or "stomach," so as to be double in front, the effect of which is to give the bowels less room to move in; affords remarkable strength to the whole body, and keeps the surface warm, soft, and moist. As the disease is a too great flow of fluids through the system, drinking fluids of any description only aggravates the malady. Yet, as the thirst is sometimes excessive, lumps of ice may be chewed and swallowed in as large pieces as possible, to any extent desired.—No food should be eaten except rice, parched like coffee, boiled as usual, served, and eaten with an equal bulk of boiled milk. This may be varied by boiling a pint of flour in a linen bag, in milk, for an hour or two, skin off the outside, dry it, grate it in boiled milk, make it palatable with salt or sugar, and eat as much as desired every fifth hour during the day, eating and drinking nothing else. This treatment will cure nine cases out of ten, if adopted promptly within forty-eight hours; if not, call in a physician.—*Hall's Journal of Health.*

Sheep vs. Dogs.

HILLSDALE, June, 1863.

MESSRS. EDITORS,—I hope you will not set me down as a fault-finder or a critic, nevertheless, I like to have things called by their right names.

In your April No. you publish "An Act to protect the owners of Sheep from damage done by Dogs." I think that law was wrongfully named, it should have been called an Act to tax dogs for the benefit of Education. It makes me think of a jury who all agreed that the defendant owed somebody, but the majority would not give it to the plaintiff but wanted to give the judgment to some one out of court.

Now the plaintiff in this case is the man who lost the sheep, but they have given the judgment to the Primary School Fund. Where is the protection? the fact that the dog is taxed does not prevent his killing sheep. D. BEEBE.

Blame our legislators, Doctor. It was intended *originally* to protect sheep, but some of the gentlemen at Lansing bethinking themselves that they were the happy possessors of a favorite mongrel cur, which often came home with wool in his teeth and licking his chops after a night's hunt, became alarmed least they should be legally deprived of so valuable a "sheep and wool trap," and skillfully changed the Act to a mere dog tax instead of a law to protect our sheep husbandry interests. The matter will be brought before the next Legislature.—W. S. B.

NATURAL HISTORY.

LIFE ON THE RIVER AMAZON.

RECORDS OF A NATURALIST.

A few years ago the project of founding an American colony on the River Amazon attracted much attention. There was an Amazon Steam Navigation Company; a grant was asked for, and we believe obtained from the Emperor of Brazil, of special privileges; and for a while the New York journals familiarized the public with the richness of that unexplored wilderness, where india-rubber trees exude their water-proof gum, and where snakes and alligators, and huge spiders, as well as equally disagreeable four-footed beasts of prey, dispute possession with the enterprising explorer and pioneer.

The Amazon fever died out in time; it may be revived in some readers by the interesting work of an English naturalist, Henry Walter Bates, just published in London under the title of "The Naturalist on the River Amazon: A Record of Adventures, Habits of Animals, Sketches of Brazillian and Indian Life, and Aspects of Nature under the Equator, during Eleven Years of Travel."

Here are Mr. Bates's impressions of a Brazilian forest, such as that mighty one near Para, which, when he first entered it, extended in unbroken solitude for three hundred miles south, west and eastward of the city. When he left the country, however, its solitude was being broken in upon by a road which was in progress to connect Para with Maranthan.

"We often read in books of travels of the silence and gloom of the Brazilian forests. They are realities, and the impression deepens on a longer acquaintance. The few sounds of birds are of that pensive or mysterious character which intensifies the feeling of solitude rather than imparts a sense of life and cheerfulness. Sometimes, in the midst of the stillness, a sudden yell or scream will startle one; this comes from some defenceless fruit-eating animal, which is pounced upon by a tiger-cat or stealthy boa-constrictor. Morning and evening the howling monkeys make a most fearful and harrowing noise, under which it is difficult to keep up one's buoyancy of spirit. The feeling of inhospitable wildness which the forest is calculated to inspire is increased tenfold under this fearful uproar. Often, even in the still hours of midday, a sudden crash will be heard resounding afar through the wilderness, as some great bough or entire tree falls to the ground. There are, besides, many sounds which it is impossible to account for. I found the natives generally as much at a loss in this respect as myself. Sometimes a sound is heard like the clang of an iron bar against a hard, hollow tree, or piercing cry rends the air; these are not repeated, and the succeeding silence tends to heighten the unpleasant impression which they make on the mind. With the natives it is always the Curupira, the wild man or spirit of the forest, which produces all noises they are unable to explain. Myths are the rude theories which mankind, in the infancy of knowledge, invent to explain natural phenomena. The Curupira is a mysterious being, whose attributes are uncertain, for they vary according to locality. Sometimes he is described as a kind of orang-outang, being covered with long, shaggy hair, and living in trees. At others he is said to have cloven feet, and a bright red face. He has a wife and children, and sometimes comes down to the roças to steal the the mandioca."

A BIRD CATCHING SPIDER.

At Cameta, the capital of the most thickly populated part of the Province of Para, Mr. Bates had opportunity to observe the habits of a gigantic bird-catching spider, of the genus Mygale.

"The species was M. avicularia, or one very closely allied to it; the individual was nearly two inches in length of body, but the legs expanded seven inches, and the entire body and legs were covered with coarse gray and reddish hairs. I was attracted by a movement of the monster on a tree trunk; it was close beneath a deep crevice in the tree across which was stretched a dense white web. The lower part of the web was broken, and two small birds, finches, were entangled in the pieces, they were about the size of the English siskin, and I judged the two to be male and female. One of them was quite dead, the other lay under the body of the spider not quite dead, and was smeared with the filthy liquor or saliva exuded by the monster.

"I drove away the spider and took the birds, but the second one soon died. The fact of species of Mygale, sallying forth at night, mounting trees and sucking the eggs and young of hummingbirds, has been recorded long ago by Madame Merian and Palisot de Beauvois; but, in the absence of any confirmation it has come to be discredited. From the way the fact has been related it would appear that it had been merely derived from the report of natives, and had not been witnessed by the

narrators. Count Langsdorff, in his 'Expedition into the Interior of Brazil,' states that he totally disbelieved the story. I found the circumstance to be quite a novelty to the residents here about.

"The Mygale are quite common insects; some species make their cells under stones, others form artistical tunnels in the earth, and some build their dens in the thatch of houses. The natives call them Aranhas caranguejeiras, or crab-spiders. The hairs with which they are clothed come off when touched, and cause a peculiar and almost maddening irritation. The first specimen that I killed and prepared was handled incautiously, and I suffered terribly for three days afterwards. I think this is not owing to any poisonous quality residing in the hairs, but to their being short and hard, and thus getting into the fine creases of the skin. Some Mygales are of immense size. One day I saw the children belonging to an Indian family who collected for me, with one of these monsters secured by a cord round its waist, by which they were leading it about the house as they would a dog."

A SHAM HUMMING-BIRD.

Like Mex'co, the Amazon region abounds with humming-birds; but, what is more curious, it has also butterflies so like some species of humming-birds as to be mistaken for them.

"Several times I shot by mistake a humming bird hawk-moth instead of a bird. This moth (Macroglossa Titan) is somewhat smaller than humming-birds generally are, but its manner of fight, and the way it poises itself before a flower whilst probing it with its proboscis, are precisely like the same actions of humming-birds. It was only after many days' experience that I learnt to distinguish one from the other when on the wing. This resemblance has attracted the notice of the natives, all of whom, even educated whites, firmly believe that one is transmutable into the other. They have observed the metamorphosis of caterpillars into butterflies, and think it not at all more wonderful that a moth should change into a humming bird.

"The resemblance between this hawk-moth and a humming-bird is certainly very curious, and strikes one even when both are examined in the hand. Holding them sideways, the shape of the head and position of the eyes in the moth are seen to be nearly the same as in the bird, the extended proboscis representing the long beak. At the tip of the moth's body there is a brush of long hair scales resembling feathers, which, being expanded, looks very much like a bird's tail. But, merely superficial. The negroes and Indians tried to convince me that the two were of the same species. 'Look at their feathers,' they said; 'their eyes are the same, and so are their tails.' This belief is so deeply rooted that it was useless to reason with them on the subject."

Of snakes there is no lack in these great tropical forests. One of these, the *Dryophis fulgida*, of a pale green color, exactly resembles a creeping plant; it is six feet in length, and the fore part of the head is prolonged into a slender, pointed beak. Another kind, still more attenuated, the diameter of the body being little more than a quarter of an inch, is the *Dryophis acuminata*. It is of a light brown hue, with indistinct shades variegated with obscurer markings, and looks like a bit of whipcord. One individual of this species, caught by Mr. Bates had a protuberance near the middle of the body which was accounted for when the snake was opened, by the presence of a half-digested lizard, much more bulky than the snake itself. There are also arboreal and water snakes, but the most beautiful kind that infests the woods is the coral snake, a lovely object when seen coiled up on a dark soil, with its bands of black and vermillion, separated by clear white rings.

MODE OF TRAVEL.

For the information of travellers who care to visit this region, we extract Mr. Bates's account of life on a cuberta, or trading vessel;

"We soon fell into a regular mode of life on board our little ark. Penna would not travel by night; indeed, our small crew, wearied by the day's labor, required rest, and we very rarely had wind in the night. We used to moor the vessel to a tree, giving out plenty of cable, so as to sleep at distance from the banks and free of mosquitoes, which, although swarming in the forest, rarely came many yards out into the river at this season of the year. The strong current at a distance of thirty or forty yards from the coast steadied the cuberta head to stream, and kept us from drifting ashore.

"We all slept in the open air, as the heat or the cabins was stifling in the early part of the night. Penna, Senora Katita and I slung our hammocks in triangle between the mainmast and two stout poles fixed in the raised deck. A sheet was the only covering required, besides our regular clothing; for the decrease of temperature at night on the Amazon is never so great as to be felt otherwise than as a delightful coolness after the sweltering heat of the afternoons. We used to rise when the first gleam of dawn showed itself above the long dark line of forest. Our clothes and hammocks were then generally soaked with dew, but this was not felt to be an inconvenience. The Indian Manoel used to revive himself by a plunge in the river, under the bow of the vessel. It is the habit of all Indians, male and female, to bathe early in the morning; they do it sometimes for warmth's sake, the temperature of the water being often considerably higher than that of the air.

"Penna and I lolled in our hammocks, whilst Katita prepared the indispensable cup of strong coffee, which she did with wonderful celerity, smoking meanwhile her early morning pipe of tobacco. Liberal owners of river craft allow a cup of coffee sweetened with molasses, or a ration of cashaca, to each man of their crews; Penna gave them coffee. When all were served, the day's work began. There was seldom any wind at this early hour; so if there was a remanso along the shore the men rowed, if not there was no way of progressing but by espia. There generally sprung a light wind as the day advanced, and then we took down our hammocks, hoisted all sail, and bowled away merrily. Penna generally preferred to cook the dinner ashore when there was little or no wind.

"About midday on these calm days we used to look out for a nice shady nook in the forest, with cleared space sufficient to make a fire upon. I then had an hour's hunting in the neighboring wilderness, and was always rewarded by the discovery of some new species. During the greater part of our voyage, however, we stopped at the house of some settler, and made our fire in the port. Just before dinner it was our habit to take a bath in the river, and then, according to the universal custom on the Amazon, where it seems to be suitable on account of the weak fish diet, we each took half a tea cup full of neat cashaca, the 'abre' or 'opening,' as it is called, and set to on our mess of stewed pirarucu, beans and bacon. Once or twice a week we had fowls and rice; at supper, after sunset, we often had fresh fish caught by our men in the evening.

"The mornings were cool and pleasant until towards midday; but in the afternoon the heat became almost intolerable, especially in greasy, squally weather, such as generally prevailed. We then crouched in the shade of the sails, or went down to our hammock, in the cabin, choosing to be half stifled rather than expose ourselves on deck to the sickening heat of sun. We generally ceased travelling about nine o'clock, fixing upon a safe spot wherein to secure the vessel for the night. The cool evening hours were delicious; flocks of whistling ducks (Anas autumnalis), parrots and hoarsely-screaming macaws, pair by pair, flew over from their feeding to their resting places, as the glowing sun plunged abruptly beneath the horizon. The brief evening chorus of animals then began, the chief performers being the howling monkeys, whose frightful unearthly roar deepened the feeling of solitude which crept on as darkness closed around us. Soon after the fireflies in great diversity of species came forth and flitted about the trees. As night advanced, all became silent in the forest, save the occasional hooting of tree frogs, or the monotonous chirping of wood-crickets and grasshoppers."

THE MONKEYS OF THE AMAZON.

Mr. Bates has a especial chapter on monkeys, as well as frequent mention of these animals throughout the book. The most singular of the Simian family in Brazil are the scarlet faced monkeys, called by the Indians Uakari, of which there are two varieties, the white and red-haired. Mr. Bates first met with the white haired variety, under the following circumstances:

"Early one sunny morning, in the year 1855, I saw in the streets of Ega a number of Indians, carrying on their shoulders down to the port, to be embarked on the Upper Amazon's steamer, a large cage made of strong lianas, some twelve feet in length and five in height, containing a dozen monkeys of the most grotesque appearance. Their bodies (about eighteen inches in height, exclusive of limbs) were clothed from neck to tail with very long, straight and shining whitish hair; their heads were nearly bald, owing to the very short crop of thin grey hairs, and their faces glowed with the most vivid scarlet hue. As a finish to their striking physiognomy, they had bushy whiskers of a sandy color, meeting under the chin, and reddish yellow eyes. They sat gravely and silently in a group, and altogether presented a strange spectacle."

Another interesting creature is the owl-faced night ape. These monkeys are not only owl-faced, but their habits are those of the moping bird.

"They sleep all day long in hollow trees, and come forth to prey on insects and eat fruits only in the night. They are of small size, the body being about a foot long, and the tail fourteen inches, and are thickly clothed with soft gray and brown fur, similar in substance to that of the rabbit. Their physiognomy reminds one of an owl, or tiger cat. Their face is round and encircled by a ruff of whitish fur; the muzzle is not at all prominent; the mouth and chin are small; the ears are very short, scarcely appearing above the hair of the head; and the eyes are large and yellowish in color, imparting the staring expression of nocturnal animals of prey. The forehead is whitish, and decorated with three black stripes, which is one of the species continue to the crown, and in the other meet on the top of the forehead.

"These monkeys, although sleeping by day, are aroused by the least noise, so that, when a person passes by a tree in which a number of them are concealed, he is startled by the sudden apparition of a group of little striped faces crowding a hole in the trunk."

This approach to an owl is as much, we should think, as any monkey would like to accomplish. Mr. Bates had one of the Nyctipitheci for a pet, which was captured after the usual manner. This pet was kept in a box containing a broadmouthed glass jar, into which it would dive, head foremost, when any one entered the room, turning round inside, and thrusting forth its inquisitive face an instant afterward to stare at the intruder. The Nyctipithecus, when tamed, renders one very essential service to its owner—it clears the house of bats as well as of insect vermin.

The most diminutive of the Brazilian monkeys is the "Hapale pygmæus," only seven inches long in the body, with its little face adorned with long brown whiskers, which are naturally brushed back over the ears. The general color of the animal is brownish tawny, but the tail is elegantly barred with black.

Mr. Bates closes his account by stating that the total number of species of monkeys which he found inhabiting the margins of the Upper and Lower Amazon was thirty-eight, belonging to twelve different genera, forming two distinct families.

THE COENDOO, OR BRAZILIAN PORCUPINE.

In South America the porcupines find a representatives in the coendoo, an animal which is not only remarkable for its array of quills, but also for the prehensile powers of its long tail.

As might be presumed from the prehensile tail and the peculiarly armed claws, the coendoo is of arborial habits, finding its food among the lofty branches. On the level ground it is slow and awkward, but among the more congenial boughs it climbs with great ease, drawing itself from branch to branch by means of its hooked claws, but seldom using its tail except as an aid in descent. The food of this animal consists of leaves, flowers, fruit, bark, and the soft woody substance of young and tender branches, which it slices easily with its chisel-edged incisor teeth. During the summer months the coendoo becomes extremely fat, and its flesh is then in great request, being both delicate in flavor and tender in character. The young of this animal are born in the months of September or October, and are very few in number.

The total length of the coendoo is about three feet six inches, of which the tail occupies one foot six inches. The nose it thick and blunt, like that of the common porcupine, and the face is furnished with very long whiskers of a deep black. The numerous spines which cover the body are parti-colored, being black in the centre and white at each extremity. Their length is rather more than two inches on the back, an inch and a half on the forelegs, and not quite an inch on the hinder limbs. A number of short quills are also set upon the basal half of the tail, the remainder of that organ being furnished with scales and tapering to its extremity. The color of the scales is black. The entire under-surface of the tail is covered with similar scales, among which are interspersed a number of bright chestnut hairs. The abdomen, breast, and inner face of the limbs are clothed with dense brown coarse hairs. It is a nocturnal animal, sleeping by day and feeling by night.

DOMESTIC ANIMALS.

For the Michigan Farmer.

DOMESTIC ANIMALS.

BY SLOW JAMIE.

No. 7.—The Buffalo.

With us the buffalo is only known as a wild animal, but in India, and even in Italy, he is tame and more used for work than the ox. This creature belongs to the cow kind, but approaches nearer the horse genus than our common domestic cow. Like the mare the female buffalo goes twelve months with young, has a small bag and thin milk. Like the horse the buffalo is suited to a warm climate and has a deep chest, with large lungs. The flesh too is coarser than beef.

In our more western country buffaloes go in immense droves which blacken the plains. When alarmed, they start off at great speed, out running most horses. But if left undisturbed, they graze around as lazily as tame cattle. Early in the morning they are up eating while the dew is on the grass. As the sun gets hot they repair to the streams, whose margins are lined with trees. Having slaked their their thirst, they lie in the shade and ruminate all day.

It is nothing unusual to see a few wild buffaloes among a herd of cows, sent out to feed in the prairies. It is remarked that they are not so wild when among tame cattle as by themselves.—This has led some to claim that cows and buffaloes are of the same species. I have even seen cattle which their owners claimed to be half buffalo. Thts is all nonsense, they never breed together, nor discover any attachment.

Young buffaloes are often caught in this country and tamed, but they are only kept for show, and never used on the farm. Nor would it profit, for they are not much larger or stronger than our ox, and much harder to manage. But in the old countries, particularly in Asia, this animal is larger than a horse, and when broken to the yoke is a powerful animal to labor. They are used to plow and draw loads, but the most common employment is to work mills. Secured in a position that they can only move round in a circle, their fierce disposition can do little harm, while their massive frame, firm muscle, and determined energy fit them for such drudgery. They also milk them, but their milk is far behind cow's in quality; however the poor are glad of it, and altho' it affords them but little butter, they make large quantities of cheese. The flesh too, altho' far behind beef, is very good food. The skin is the most valuable part of the animal. We dress it with the hair on to make robes, overshoes and mittens; but in the countries of the Eastern hemisphere, it is manufactured into leather of a superior quality. It is soft and pliant, and yet keeps out the water.

Our small buffalo of America, if wounded, will attack a man with great ferocity, but the large buffalo of the East is still fiercer. This very boldness makes them fall an easy prey to the negroes. The moment the buffalo is attacked, he makes at them. The nimble savages spring up trees, and from the branches shoot their arrows and lances at the animal, which bellows, paws and rages below until he is killed. His flesh, coarse as it is, is a great feast to the hunter, and his skin is sold to the trader.

There used to be wild bulls in England of a pure white color. They had long hair about their head and neck, like the buffalo, but they belonged neither to the cow species nor that of the buffalo. The last were killed about two hundred years ago.

DISEASES OF THE HORSE.

We make the following extracts from Dr. Jenning's work—"The Horse and his Diseases:"

Wind Galls.—Wind galls are puffy swellings about the joints, found above the fetlock on both the hind and for legs. They are technically known as bursal enlargements, that is, a distended condition of the *bursæ* or synovial sacs, which contain the synovia, or joint oil. The animal suffers no inconvenience, apparently, from their presence upon his limbs, they evidently causing no pain.

It is seldom that any treatment is resorted to, except in the case of a very valuable animal.—Blisters are commonly applied, but they are not attended with any permanent benefit. The application of cold water and compresses, secured by means of bandaging the legs, has proven the most efficacious.

Sprung or Broken Knees.—This trouble does not always result from an injury of the leg, or strain of the tendons; it is more often found in horses that have bad corns in the feet, or troubled with navicular disease, than in any other. The animal raising his heels to prevent pressure upon the tender parts, bends the knee, which bending becomes finally, from the altered position of the limb, a permanent deformity. Horses with sprung knees are unsafe for saddle purposes, owing to their consequent liability to stumble.

Respecting the treatment, it may be said that six out of every ten sprung-kneed horses will be found to have corns. If these be of recent growth, there is a fair prospect of straightening the limbs by removing the corns as directed under the head of that disease; by the removal of these the heels are brought to the ground, and the limb becomes straight. Under any other circumstances all treatment proves useless.

Breaking Down.—This accident occurs in running, jumping, racing, etc. It is sometimes called

a strain of the back sinews, and lets the animal down upon the fetlock, in consequence of a rupture of the ligament of the pastern. Horses meeting with this accident are of little value ever after, as they always remain weak in the fetlock.—Unless the animal is quite young and valuable, the treatment would cost more than the animal's value. The French treat these cases very successfully by the application of instruments which keep the limb in its proper position until the parts have again healed and become strong. This is the only course to be pursued with any possible chance of a successful termination of the case.

Strains in the Knees.—Strains of this joint occur in young horses while being broken into harness more often probably than at any other period of the animal's life. This results from the tenderness of the parts at that time, not one in twenty having them having arrived at maturity. These strains often prove troublesome to manage, and occasionally leave a stiff knee as the result.

Treatment—bleeding from the plantar or plate vein; warm fomentations to the part; when the inflammation is reduced, apply once a day, for several days, the following ointment: Iodine ointment, one ounce; blue, or mercurial ointment, half an once; mix well together.

Strains of the Hip Joint.—This occurs in falling, slipping, getting up, etc. The symptoms are a dragging motion of the limb; the lameness passing off after the animal gets warmed up, and returning upon his becoming again cool, the horse being then even more stiff and lame than before leaving the stable.

For treatment, apply cold water; a purging ball and rest are all that are requisite to effect a cure. Careful usage for some time after will be very necessary.

Shoulder Strains.—This, which is of rare occurrence, arises from severe blows, or concussions; slipping so as to throw the legs apart forcibly; falling in the shafts of a heavily laden cart, etc.—The symptoms are usually well marked; the horse is quite lame, both when walking and trotting; the leg drags with the toe on the ground, having an outward or circular motion.

Local bleeding is generally useful by way of treatment; three or four quarts may be taken from the plate vein, which runs down the inside of the leg. If, however, the animal is in a debilitated condition, bleeding should not be practiced. Foment the shoulder well with hot water frequently; a seton will often be found beneficial.—After fomenting two or three days, use the following liniment: Laudanum, one ounce; spirits of camphor, one ounce; tincture of myrrh, one ounce; castile soap, one ounce; alcohol, one pint. Or, sweet oil, one pint; spirits of hartshorn, three ounces; shake well together.

Open Joints.—These are generally the result of a punctured wound; the capsular ligament that surrounds the joint and confines the joint oil within its proper limits being thereby penetrated. These accidents are often attended with serious results, from the inflammation that is likely to arise from such an injury.

For treatment, efforts should first be made to close the wound, that the escape of the oil which lubricates the joint may be prevented. If the wound is small, it may be closed by means of a hot iron; if large, shave off all the hair around the opening, apply a piece of linen cloth well saturated with colodion, and bandage the part.—Care must be taken to have the skin around the wound perfectly dry, or the collodion will not adhere. Shoemaker's wax, or common glue, applied in the same way, will frequently answer the purpose. The animal must be kept perfectly quite, his bowels opened, and he be kept upon his feet for several days; if, however, the collodion adheres well, this is not of so much importance

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Sheep-Shearing Festival.

The Annual Sheep-Shearing Festival of the Lenawee Agricultural Society was held at Adrian the 19th of June, in the splendid building owed by that Society. The *Expositor* says:

We notice a growing interest in this Festival. The attendance was twice as large this year as last, we should judge, and a good deal of interest was manifested. The show of sheep was excellent, and some fine specimens of expeditious and clean shearing were exhibited during the day.—The competition was thrown open to all, and the consequence was that Hillsdale County was represented and caught our farmers napping, actually carrying off the first prize in both departments, wool and shearing. It was an instance of regular military "gobbling up"—a swoop and a surprise. We mustn't allow that another year.

Henry Huff, took the first premium for "best fleece from buck two years old and over," $7,00; and Wm. Moore, also took the first premium—$3,00, for the best shearing, "taking into consideration the size and condition of the sheep, (whether smooth or wrinkled,) the neatness in which the shearing was done, (whether smoothly and free from cuts, or the reverse,) and the time occupied." Mr. Moore's time was 48 1-2 minutes, and Mr. Decker's (the next competitor) over an hour.

Mr Moore subsequently performed a remarkable feat on a wager. A gentleman offered to bet a handsome amount that Mr. M. could not shear a certain large and badly wrinkled buck in 37 minutes; the bet was taken by another gentleman, who had apparently a little confidence in M.'s ability. *The job was completed in twenty mi-*

nutes! One half the amount of the bets was given to Mr. M.

The *Expositor* remarks of the latter feat: "We should like to see it beaten. It was voted a 'big thing' by all present."

Feeding Hogs.

A correspondent of the Boston Cultivator, who insists that the food for hogs should always be cooked, and, in cold weather, fed to them warm, and in a warm place, gives the following statement of his manner of preparing the daily food, and the cost thereof, for his swine; his business being chiefly to raise pigs and shoats for sale:

Take six pounds of beef scraps, at a cost of nine cents, boil in two pails of water, scald in two quarts of corncob meal at a cost of three cents, add six pails of water, and you have good swill enough to feed six store hogs and eight small shoats once, at an expense of twenty four cents. This done twice each day is sufficient to keep breeding sows or store pigs in good condition.—This is the exact quantity I am feeding to the number of hogs mentioned. I slaughtered two fat hogs last fall, fed in this way until time to fatten them arrived, after which they had their usual feed thickened to a dough with corn and cob meal only, and at the age of sixteen months the two weighed over 1000 pounds.

ITEMS.

Wool.—Mr. P. R. Phillips, who resides on the north line of Clinton, sold the present week, to J. W. Paine, Esq., of this place, eighty-six fleeces of wool, at sixty-five cents. The wool weighed 538 pounds, an average of six and one-quarter pounds to the fleece. One buck's fleece weighed eighteen pounds, and last year fourteen pounds. This wool was clean, and in good order. Total value, $349 70.—*St. Johns Democrat.*

☞ Merchants, farmers, mechanics, and all who have property, look well to the company in which to insure. The Michigan Home Insurance Company, of Oxford, in Oakland county, is second to none for promptness in meeting the demands made upon them; and the best evidence we can give of its reliability, is the names of its Directors. See advertisement in another column.

Wool Items.—One hundred ewes, with lambs, and sixty wethers, selected from the flocks of Dr. Sampson, of this village, averaged over five and one-half pounds of washed wool per head.

A two year old buck, owned by Higby & Hunt, of Benton, sheared sixteen pounds six ounces of wool, free from all extraneous matter, and the growth of the past year. The animal was purchased last summer of Bronson C. Knapp, of Lenawee county.—*Charlotte Republican.*

Great International Wheat Show.

A great International Wheat Show will be held at Rochester, N. Y., September 8th, 9th and 10th, under the auspices of the Monroe County Agricultural Society. The following premiums are offered:

For the best 20 bushels of White Winter Wheat,	$150 00
For the second best do do	75 00
For the best 20 bushels Red Winter Wheat,	100 00
For the second best do do	50 00
For the best 2 bushels White Winter Wheat,	50 00
For the second best do do	25 00
For the best 2 bushels Red Winter Wheat,	40 00
For the second best do do	20 00
For the best 2 bushels Spring Wheat,	
For the second best do do	10 00

Competitors for these prizes will be required to furnish samples of the wheat in the ear and with the straw attached, (say fifty ears of wheat and straw), also to furnish a written statement of the nature of the soil on which the wheat grew, method of cultivation, time of sowing, quantity of seed sown, manures (if any used,) and mode and time of application; also the time of ripening and harvesting, and the yield per acre, with such other particulars as may be deemed of practical importance; also the name by which the variety is known in the locality where it was grown.

The wheat must be one variety, pure and unmixed. The prize to be awarded to the actual grower of the wheat, and the wheat which takes a prize to become the property of the Society.

It is hoped that farmers in all sections of the United States and Canada, who have good samples of wheat, will compete for these prizes. We have never yet had a good wheat show in the United States. It is highly important that the wheat growers of the country should meet together and compare samples of wheat raised in different sections. We understand that the money for these premiums has been raised by subscription, among the friends of agriculture in western New York, and the time of holding the fair has been fixed so as to enable farmers to purchase their seed from the wheat entered for competition. A change of seed is always desirable, and it is believed that all the wheat of good quality sent to the fair will find purchasers at a high price. Full particulars can be obtained by addressing the President of the Society, Joseph Harris, Editor *Geneseo Farmer*, Rochester, N. Y.

The farmers of Michigan should send their *best* specimens, and carry off the prizes, if possible. Michigan flour took the *first* premium at the

World's Fair, in London, some years ago, and her wheat will be hard to beat. We do not think, however, that the *prize wheat* should become the property of the Society, as twenty bushels will be worth $30, and its transportation will be worth $5 more; thus the first premium is reduced to $115, and the others in the same proportion.

King Birds and Bees—Moths—Singular Swarming.

A correspondent of the *Prairie Farmer* gives the following facts about bees:

The other day I saw a king bird sitting on a tree near my bee-hives. Having seen it stated that they do not destroy bees, I determined to satisfy myself by actual experiment, so I shot him, and held a *post mortem* examination upon his carcass. I could not find any craw; if he had one, there was nothing in it, but in his gizzard were the heads, legs, and other portions of a large quantity of bees—actual honey bees, and no mistake—nothing but bees, no other kind of bug or insect. I have declared inveterate and permanent war against all bee martins or king-birds. Let them beware.

I saw an article some time ago, in one of the agricultural papers, recommending a brick or cement flooring to be laid under the hives as a preventive for moths, the writer stating that the moth eggs would hatch on nothing but wood; the plan seemed plausible, and I tried it with cement, but I find the moths hatch equally as abundant as before.

During the hot weather, I keep my hives raised on small blocks about a quarter of an inch. I have lately substituted pieces of iron for the wooden blocks. I have discovered no moths since, but am not fully convinced that it will accomplish the desired result. Has any one else tried it? if so, let us hear from them. I lost a swarm in a very careless manner; for fear others will fall into the ame blunder, I will narrate it. The swarm was hived in the usual way. I put them into a fresh hive, though made a year ago; a common square box hive, made of yellow pine. It was placed on the stand, in a place exposed to the sun, and I neglected shading it. In the morning the sun came out upon it very not for the first time. I suppose the rosin in the boards started, and smelt so strong that they could not stand it, for they left it and went to the woods over a mile away. They had made quite a lot of comb. One of my neighbors had three swarms come out at the same time, from separate hives; he was trying to settle them, when suddenly they went into a hive with another swarm. Two swarms went into the hive and completely filled it, and the third lit about it, and were about to enter, but were prevented. The two, however, stayed in, and continue their work without interrupting the others.

Removing Honey from the Hives.

Two years ago we tried the following experiment on a hive of bees, from which it was desired to take the honey:—Having bored a hole near the top of the hive, it was then inverted, and an empty box of the size placed over it. Both are then lifted into an empty tub, into which water was slowly poured, allowing time for the liquid to penetrate through the holes, but not too fast, in order to avoid drowning the bees. As the water rose among the combs, the bees found their way up into the empty box, which was then lifted off and placed on the bee stand. The box, full of water and combs, was then lifted gradually out of the tub, the water escaping through the holes by which it entered. The whole operation occupied but a few minutes, and hardly any bees were lost. The short time necessarily prevented the honey from becoming dissolved, and as the greater number of the cells are closed up, there is really little danger of such loss being sustained. After the water was drawn off, it was found to be only slightly sweet; these combs soon became dry, and the honey was in no way injured.—*Maine Farmer.*

Stirring the Soil in Dry Weather.

That frequent stirring the soil is the cheapest and most effectual way of protecting crops against drought is proved by the fact that a soil plowed or cultivated often in a dry time is moist almost to the surface, while land neglected, is dry to a great depth. Some farmers from false reasoning infer that if a new surface is continually exposed to sun and air, the effect will be to dry the soil still more. But the atmosphere in the dryest and hottest weather is more or less charged with moisture, to prove which we only have to present a cold surface to the atmosphere, as a pitcher of ice water for instance, when the moisture of the air will be condensed and form in large drops on the outside of the pitcher. By frequent stirring the soil is kept loose and porous, and coming in contact with the cold and earth is robbed of its moisture by condensation, in the same manner as in the example of the pitcher given above. The oftener the soil is stirred the more new surface will be presented for action in the same manner; but when land is suffered to remain idle, a crust is formed on the surface which is impenetrable to the atmosphere, and no such effect can take place. [Gen. Farmer.

☞ Warbles are grubs, the eggs of which are deposited in the back of cattle by the gad-fly.

DOMESTIC WINES.

RHUBARB WINE.

Mr. B. P. Cahoon, of Kenosha, Wis., was the first in this country to manufacture wine from rhubarb; and he is now extensively engaged in the business, having last year, as we learn from the Wisconsin Farmer, made over 3,000 gallons of wine from two acres of rhubarb.

Mr. Cahoon's method is to mix the the juice of the rhubarb in proportion of 1 gallon of juice, 1 gallon of water, and 7 lbs. of sugar.

A correspondent of the Rural New Yorker, gives the following receipt, which he says produced excellent wine: To every 1½ lbs. of rhubarb, when bruised well, put 1 quart cold boiled water; let it stand four days, stirring three times a day. To every gallon of juice put 3½ lbs. of lump sugar, and to every 20 quarts, 2 of brandy. Barrel it directly, and let it stand a twelve month.

BLACKBERRY WINE.

The juice of the blackberry may be extracted by putting them into a linen cloth and pressing them with the hands. To 1 quart of juice, add 1 quart of water, with 2 lbs. white sugar. Stir until the sugar is well dissolved, put in a clean jug or keg, and set it in a cool place. Let it ferment for several weeks then draw off and cork in bottles.

CURRANT WINE.

When the berries are fully ripe, squeeze them until the juice ceases to run freely. Pour over the pulp as much water as there is juice, and squeeze again. By repeating this process, all the juice will be extricated, forming a liquid of the proper consistence, viz: 1 part juice and 2 parts water. Add one-third to its weight of sugar, and place in open vessels in a cool place to ferment. In three days it will be ready for bottling. If fermentation goes on too rapidly, which will be noticed if the liquid seems to form vinegar, remove the vessel to a cooler situation.

ELDERBERRY WINE.

To make this wine, take 1 quart of the juice of the ripe berries, and add 2 quarts of water, and 3½ pounds of sugar. When the sugar is dissolved, strain and put in 2 tablespoonsful of yeast to each gallon of the liquid, letting it stand about 15 days in open vessels, after which, drain off and bottle. Keep in a cool place.—*Ex.*

PRESERVING SUMMER FRUITS. Such fruits as strawberries, raspberries, blackberries and the like, may be preserved in the following manner cheaply, and their flavor be retained: Put sugar over the fire, at the rate of half a pound to the pound of berries, add a little water; when hot take fruit in a skimmer and dip it into the sugar holding it there for half a minute, perhaps; then take it out and spread it on tins. Go through the whole lot in this way; then boil down the sugar to a thick syrup, and pour it over the fruit; set the tins either in the sun or in a hot oven till the berries are dried through in thin gelatinous cakes; when thoroughly dry, put the cakes in a bag and hang it up out of the way. The cakes will keep as long as wanted, and may be fitted for the table in a few minutes by the addition of a little hot water or more sugar, if necessary.—The beauty of this method is that the flavor of the fruit is retained, while there is no danger of its spoiling by fermentation. Fruits, when preserved in the usual way, pound for pound, are made too sweet, and lose their distinctive flavor, so much so that they become like a piece of leather dipped in sugar, and one can hardly see or taste the difference. Besides, without care preserves are apt to ferment and spoil.

How to Dry Sweet Corn.

When the corn is in good condition for eating, the grains being fully grown, boil a quantity of ears just enough to cook the starch, and let them cool and dry a few hours, and then shell or cut off the grains and spread them in the sun till dried. The best way to dry the corn is to nail a piece of cloth of very open texture on a frame, which if two feet awide and five feet long, will be of a convenient size to handle. If the corn is spread thinly upon this cloth it will dry quickly, without souring. It should be covered with a piece of musketo netting to keep off the flies.—Another person gives the following directions for drying sweet corn: "As soon as the corn is fit for the table, husk and spread the ears, in an open oven, or some quickly drying place. When the kernels loosen shell the corn, or shell soon as you can. Then spread upon a cloth to dry in the sun, or on paper in a warm oven; stir often that it may dry quickly, and not overheat. It more resembles the undried by its being whole, is sweeter, and retains more of its natural flavor by drying faster. Wholly dried expose it to the wind by turning it slowly from dish to dish; the wind blows off all the troublesome white chaff."

Another plan has been highly recommended, and a machine invented to facilitate the operation. This is to bore out the pith of the cob, and then completely dry the corn on the cob, and keep it there till wanted for the table, when it may be boiled as it grew, or shelled first.

Cranberry Culture.

No State in the Union is so well suited to the production of Cranberries as Michigan, surrounded as it is by that which is most necessary for its success—plenty of water. This crop is one of our most staple fruits for winter, always bringing a good price, and it is strange that our farmers do not turn their attention more generally to its cultivation, as nothing sells more readily than Cranberries at all seasons of the year. We give below D. Chilson's mode of culture as practiced by him for many years in Massachusetts, where immense quantities of this fruit are grown and sold at large profits:

1. Select a situation for your cranberry field on a clay soil, or on a dark loam soil, or on all soil where there is a mixture of sand, mostly of reclaimed lands, such as can be made moderately dry, are well suited to grow the cranberry. In fact, most all soil that is natural to grow the potato, is well adapted to grow the cranberry (yet the first-mentioned soil would be preferred.) As far as I have ascertained there are three varieties of cranberry: the Bell, Cherry, and the Barberry.

I have never known of any other variety of the berry that would naturalize to dry soil, except the Bell cranberry; this species of the berry grows much in the form of an egg—it is inclined to grow in the wild state, on the borders of cranberry bogs, spreading its way to upland soil. This species is much larger than the others, in its wild state. Persons engaged in the cultivation of the article, should commence with the last mentioned species, and by commencing with those that have been cultivated and naturalized to a dry soil, they will much sooner accomplish their object, with much less trouble and expense, as the plants multiply and increase abundantly.

2. Prepare your soil the same as for sowing grain, by plowing, harrowing, and making your soil even—then mark it out in drills, eighteen to twenty inches apart, putting the plants in the hills, six or eight inches apart, five or six plants in a hill—hoe them slightly at first, till the roots become clinched, and afterwards no other cultivation is needed. The plants may be expected to run together and cover the whole soil in two or three years. The cranberry grown by cultivation, usually yields from 150 to 200 bushels an acre; its fruit is about twice as large as the wild fruit, and of a beautiful flavor; it readily keeps sound from the harvest time of it to the time of harvest again. The fruit is usually gathered in September; it is gathered with wire-teeth rakes, made for the purpose.

Our enlargement has made us late this month.

"Fickhardt's Cattle Powders."—The farmers of Michigan can now have those celebrated and effective powders in Detroit, Messrs. T & J. Hinchman, wholesale druggists, are agents for this valuable preparation for all kinds of farm stock. They are used and reccommended by many of the government veterinary surgeons at Washington and elsewhere, as being the best promoters of health and condition for horses, mules and cattle now before the public. If any of our readers want a good remedy for diseases in stock, they had better try "Fickhardt's Cattle Powders.

Combined Threshers and Cleaners.—Messrs. R. & M. Harder, Cobleskill, New York, are manufacturing some of the best agricultural machinery at their works now known. Their combined threshers and separators and horse powers, have the reputation of being the most useful, substantial, and easy moving pieces of mechanism now known to farmers economy. They have taken first prizes at the New York State Fair, for two years. Those desirous of procuring combined horse power threshers and separators, or cleaners can not do better then send their orders to Messrs. R. & M. Harder, when they will be promptly filled.

"Leslie's Ten Cent Monthly."—This untiring publisher proposes to still further cater to the wants of the reading public by issuing "a model ten cent monthly." It is to be copiously illustrated in the best style, and filled with matter treating upon all general subjects. Buy a number, and if you are not pleased with your purchase, we will refund your ten cents and give the book gratis. See his advertisement in another column for full particulars.

"The Colonial Farmer."—We welcome to our table this new worker in the field of agriculture, from Fredericton, N. B. It is neat and ably conducted sheet, and should receive the support of every friend of agriculture in the Province of New Brunswick.

Michigan Southern and Northern Indiana Railroad.—We took a trip over this road during the present month and were well pleased at the large business and perfect arrangements for transportation and travel. It passes through five of the best agricultural counties in Michigan, which makes it one of the most pleasant routes in the West.

☞ At the sheep fair at Battle Creek, 13th ult., there were twenty-four entries made of different blood sheep, viz: Fourteen of full-blooded Spanish; two of full-blooded French; seven of graded, and one full-blooded Cotswold. There were also five entries for the best fleece of bucks' wool. The fleece of the premium buck weighed twenty-two and one-half pounds. Five men competed in sheep-shearing, and the premium was won by S. M. Wibert.

☞ On the 20th of June, Mr. John Hoover, of Shelby, sheared from a Spanish Merino buck, twenty-one months old, a fleece weighing sixteen and one-half pounds; on the 18th day of June, last year, he sheared five and one-quarter pounds of clean washed wool, making twenty-one and three-quarter pounds. The sheep is a full-blooded Spanish Merino, bred by P. M. Bentley, Esq., of Macomb, and now owned by Mr. Hoover.—*Romeo Argus.*

DETROIT MARKET PRICES,

Ending July 22nd, 1863.

Carefully corrected just before going to press, by

C. L. CROSBY & CO.,

Commission Merchants and Dealers in Fruits, and Western Produce generally. No 169, Woodward Avenue, Detroit, Mich.

White Wheat ℔ bush.	dull & declining	$1 20@1 25
Red Wheat do	do	1 08@1 05
Corn, Shelled, do	nominal	0 55@0 56
do in the ear, do	quiet and nominal	0 50@0 56
Oats, do	declined and dull	0 55@0 56
Rye, do	declined and quiet	0 00@0 75
Barley, new ℔ cwt.	dull and little doing	2 25@2 60
Potatoes, Neshannocks, ℔ bu.	heavy and dull	0 48@0 50
do common do	do	0 30@0 40
Apples, ℔ bbl. "Havrest bow,"	new crop, good dmd	6 00@6 50
do dried ℔ bush.	dull and declining	0 90@1 00
Seed, clover do	nothing doing	4 50@5 00
do timothy do	dull nominal	1 75@2 00
Beans, do	steady demand	2 50@3 25
Onions, do	out of market	1 00@1 25
Turnips, do	do	0 00@0 20
Cider, ℔ bbl. wanted	none offering	3 50@4 00
Butter, fresh roll, ℔ ℔	fair demand	0 14@0 14½
firkin, do	more quiet	0 14@0 14½
Peaches, dried do	quiet but firm	0 14@0 15
Venison, do	none in market	0 6@0 07
Eggs ℔ doz.	in fair supply & quiet	0 12½@0 13
Pork, best dressed, ℔ cwt	nothing doing	4 50@5 00
do do ℔ bbl	dull and declining	12 00@13 00
Beef, best dressed ℔ cwt	declined	4 00@5 50
Mutton, dressed ℔ lb.	advanced to	0 06@0 07
do live do	advanced to	0 05@0 08
Hides, green, do	advanced to	0 06½@0 07½
do dry, do	advanced to	0 14@0 15
do green calf do	advanced to	0 12½@0 15
do dry do do	advanced to	0 25@0 30
Sheep Skins each	declined	2 00@3 00
Wool fine grade ℔ ℔	lower and unsettled	0 50@0 60
Canada coarse clean fleece	do	0 48@0 59
Chickens dressed per pair	nominal	0 37@0 50
do live ℔ pair	do	0 30@0 40
Hay ℔ ton new and old	declined	8 00@9 00
Cheese, ℔ lb	declining & quiet	0 10@0 12
Corn Meal, ℔ cwt.	very dull	1 20@1 25
Coarse middlings do	do	14 00@15 00
Salt, ℔ bbl.	declined	0 00@2 00
Flour, do	declining & quiet	4 50@7 00
do buck wheat ℔ cwt.	none in market	1 75@2 00
Lard, ℔ lb	declined and quiet	0 08@0 09½

POTATOES—Best new readily bring 1,50—common 1,35 per bushel, with a good demand for family use.

WOOD Quiet—Good Hickory, $4,00 *a* 4,25. Beech and Maple $3,25a3,75; mixed Wood Beech, Ash, &c., at $3,00a3,25. Green ranges from 20 to 30 cents lower than well-seasoned or dry. Not much wanted.

NEW YORK MARKET.

Compiled for the Farmer from the latest New York advices to the date of going to Press.

FLOUR—Market dull and lower. Prices have declined generally, having fallen full 50c. per bbl. on fine, and 25c. on common grades. Prices range from $4 95 to 7 20.

WHEAT—The decline in gold has brought the price of wheat down some 20c. since our June issue. On the 21st instant, amber *Michigan* sold for $1,35a1 40.

CORN—Market slightly declined since June report. Prices from 65 to 66c per bushel. 10 cents lower.

OATS—Dull and lower—70a76½c. 4 cents lower.

BEANS—Very firm and in demand. $3 85a3 50 for marrowfats—$3 35a3 45 for mediums.

PORK—Market more firm with considerable demand for future delivery—$16 00 for prime mess—$10 50a13 50 for prime old.

BEEF—Quiet and firm. $5 50a21 00. Prime mess $21 00—Country mess $5 00a8 00—Decline of 50a1 00.

LARD—Dull and prices steady; sales 2,550 bbls and tcs at 9¾a10¼, closing at 9¾a9¾c for No. 1; 9¾a19c for steam, and 10c for kettle rendered.

BUTTER—Dull and prices are lower; the sales include Western and Ohio at 15a17c for common to prime.

CHEESE—Slightly declined, with a moderate export demand. We quote Ohio at 9a9¾c.

REMARKS.—Flour is dull in all grades. Wheat has fallen with gold. Corn and Oats are dull and declining. Pork is steady and Beef not so active as last month and lower. Lard is dull. Butter and Cheese both have had a slight decline.

"THE PRAIRIE FARMER."—This substantial agricultural journal coming to us for July 4th, with a new dress and enlarged size, which evinces a prosperity in its publication. It is a most able and useful journal, and should command a large patronage in its locality. Long may it be welcome to our table.

"BALLOUS DOLLAR MONTHLY MAGAZINE."—This old favorite cheap monthly is before us for August, and as usual contains its large and varied *melange*. Everybody should buy it—only ten cents per number.

"THE FARMER'S ORACLE."—Away from the Great Salt Lake Valley comes this welcome visitor. It is an able soldier come forward to combat for the rights of the greatest of all interests—agriculture. It is just what is needed to inspirit and develope and urge forward the farming economy of that region, and let the world know what Utah can produce. Let every man help sustain it in its useful mission.

"THE KANSAS FARMER."—This young State has arrived at the dignity of an agricultural journal with the above title. Nothing will tend to better make known the farming capacities of Kansas abroad, that will such a paper, and every man who has an interest in the welfare of that State should do his utmost to give it that support which it justly deserves.

MISCELLANEOUS.

A PREMIUM FOR EACH NEW SUBSCRIBER

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ONE OF THE LARGEST AGRICULTURAL MONTHLIES IN THE UNITED STATES—CONTAINING 50 Pages.

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For every New $1 Subscriber, A LARGE POCKET WAR MAP, containing 84 Pages

Of valuable statistical information relative to every Battle and all the general events of the War. It should be in the hands of every man, as it embraces much reliable and valuable information which cannot be readily obtained from any other source. Send a subscriber and get it.

Or 25 STRONG TRIOMPH D' GAND STRAWBERRY PLANTS,

To be sent in time for Fall Planting, with instructions as to Soil, &c.

Largest Number of Plants ever offered for One Subscriber!

Old patrons can have *either* by paying for eighteen months, $1,50 *in advance.*

FOR THREE $1 SUBSCRIBERS,

A DELAWARE GRAPE VINE,

One of the newest, best, earliest, hardiest and most productive known in Grape Culture. This variety is one of the finest flavor for table use, and should be in every man's garden. We will send them by mail at the proper season. Try and secure one, as there are very few *true* Delaware Grapes in Michigan.

FOR FIVE NEW $1 SUBSCRIBERS,

200 Triomph d' Gand Strawberry Plants, or 2 Delawares,

Or a copy of Mrs. L. B. Adams beautiful book, entitled "SYBELLE, *and other Poems.*"

CLUB RATES.

1 copy,	(one year)	$1 00	in advance	
5 "	"	4 00	"	
8 "	"	6 25	"	
10 "	"	7 50	"	
15 "	"	$11 00	"	
20 "	"	14 00	"	

25 copies	one year	17 00	in advance
30 "	"	20 00	"

Thus it will be seen that our terms are extremely liberal and within the reach of all, as a club of thirty get the Farmer *for sixty-eight cents a year each!*

WILLIAM S. BOND, } *Publishers.*
GEORGE SNYDER, }

THE BEST MESSENGER AND BASHAW STALLION IN THE WEST,

"YOUNG KEMBLE JACKSON,"

Will stand for Mares the coming season, at the Spring Brook Farm, adjoining the village of *Farmington*, Oakland county, Michigan, on Monday, Tuesday and Wednesday, and at the *Association Park Course* Thursday, Friday and Saturday of each week during the season. Season to commence April 13, and close August 1st, 1863.

TERMS $15 THE SEASON, - - - - - - - - Money due when the Mare is first served

Good Pasture furnished at Fifty Cents per week. All accidents and escapes at the owner's risk.

PEDIGREE OF KEMBLE JACKSON.

KEMBLE JACKSON—Mahogany bay, 16 hands high; star in his forehead; hind feet white half-way up to the gambrel joints; foaled June 14, 1854; the property of Isaac Akin, Paulding, Duchess Co., N. Y.; *Sire*, Kemble Jackson; *dam*, Lady Moore, half sister to Iola.

Kemble Jackson was by Andrew Jackson; his dam, Fanny Kemble, sister to Charles Kemble, and sired by Sir Archy; her dam was Maria, sired by Gallatin; Maria's dam was got by Stimm's Wildair, she out of a mare got by Morton's Traveler; her dam imported.

Andrew Jackson was by Young Bashaw; dam by Why-Not, by Imported Messenger; Young Bashaw was by the Imported Tripolitan Barb, Grand Bashaw; Young Bashaw's dam was a daughter of Messenger.

Lady Moore was out of Messenger Maid, by Membrino Paymaster; he by old Membrino, by Imported Messenger; dam of Lady Moore was by Membrino.

Kemble Jackson is the sire of Norman Jackson and Flora Kemble, the two best three years old colts in this State. They can be seen near the Association Park Course, Hamtramck.

F. E. ELDRED, Detroit.